

RECEIVED

NOV 06 2000

TECH CENTER 1603/2900

#20

SEQUENCE LISTING

<110> Hilton, Douglas J.  
Alexander, Warren S.  
Viney, Elizabeth M.  
Wilson, Tracy A.  
Richardson, Rachel  
Starr, Robyn  
Nicholson, Sandra E.  
Metcalf, Donald  
Nicola, Nicos A.



<120> THERAPEUTIC AND DIAGNOSTIC AGENTS

<130> Davies Collison Cave

<140> 08/962,560  
<141> 1997-10-31

<160> 68

<170> PatentIn Ver. 2.1

<210> 1  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Primer

<400> 1  
cacggccggcc acgtgaaggc

20

<210> 2  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Primer

<400> 2  
ttcgccaaatg acaagacgct

20

<210> 3  
<211> 1235  
<212> DNA  
<213> Mus musculus

<220>  
<221> CDS  
<222> (161)..(799)

<400> 3  
 cgaggctcaa gctccgggcg gattctgcgt gcccgtctcg ctccctgggg tctgttggcc 60  
 ggcctgtgcc acccggacgc ccggctcact gcctctgtct ccccatcag cgagccccg 120  
 gacgctatgg cccacccctc cagctggccc ctcgagtagg 160  
 atg gta gca cgc aac cag gtg gca gcc gac aat gcg atc tcc ccg gca 208  
 Met Val Ala Arg Asn Gln Val Ala Ala Asp Asn Ala Ile Ser Pro Ala  
 1 5 10 15  
 gca gag ccc cga cgg cgg tca gag ccc tcc tcg tcc tcg tct tcg tcc 256  
 Ala Glu Pro Arg Arg Ser Glu Pro Ser Ser Ser Ser Ser Ser Ser  
 20 25 30  
 tcg cca gcg gcc ccc gtg cgt ccc cgg ccc tgc ccg gcg gtc cca gcc 304  
 Ser Pro Ala Ala Pro Val Arg Pro Arg Pro Cys Pro Ala Val Pro Ala  
 35 40 45  
 cca gcc cct ggc gac act cac ttc cgc acc ttc cgc tcc cac tcc gat 352  
 Pro Ala Pro Gly Asp Thr His Phe Arg Thr Phe Arg Ser His Ser Asp  
 50 55 60  
 tac cgg cgc atc acg cgg acc agc gcg ctc ctg gac gcc tgc ggc ttc 400  
 Tyr Arg Arg Ile Thr Arg Thr Ser Ala Leu Leu Asp Ala Cys Gly Phe  
 65 70 75 80  
 tat tgg gga ccc ctg agc gtg cac ggg gcg cac gag cgg ctg cgt gcc 448  
 Tyr Trp Gly Pro Leu Ser Val His Gly Ala His Glu Arg Leu Arg Ala  
 85 90 95  
 gag ccc gtg ggc acc ttc ttg gtg cgc gac agt cgt caa cgg aac tgc 496  
 Glu Pro Val Gly Thr Phe Leu Val Arg Asp Ser Arg Gln Arg Asn Cys  
 100 105 110  
 ttc ttc gcg ctc agc gtg aag atg gct tcg ggc ccc acg agc atc cgc 544  
 Phe Phe Ala Leu Ser Val Lys Met Ala Ser Gly Pro Thr Ser Ile Arg  
 115 120 125  
 gtg cac ttc cag gcc ggc cgc ttc cac ttg gac ggc agc cgc gag acc 592  
 Val His Phe Gln Ala Gly Arg Phe His Leu Asp Gly Ser Arg Glu Thr  
 130 135 140  
 ttc gac tgc ctt ttc gag ctg ctg gag cac tac gtg ggc gcg ccg cgc 640  
 Phe Asp Cys Leu Phe Glu Leu Leu Glu His Tyr Val Ala Ala Pro Arg  
 145 150 155 160  
 cgc atg ttg ggg gcc ccg ctg cgc cag cgc cgc gtg cgg ccg ctg cag 688  
 Arg Met Leu Gly Ala Pro Leu Arg Gln Arg Arg Val Arg Pro Leu Gln  
 165 170 175  
 gag ctg tgt cgc cag cgc atc gtg gcc gtc ggt cgc gag aac ctg 736  
 Glu Leu Cys Arg Gln Arg Ile Val Ala Ala Val Gly Arg Glu Asn Leu  
 180 185 190  
 gcg cgc atc cct ctt aac ccg gta ctc cgt gac tac ctg agt tcc ttc 784

Ala Arg Ile Pro Leu Asn Pro Val Leu Arg Asp Tyr Leu Ser Ser Phe		
195	200	205
ccc ttc cag atc tga ccggctg ccgctgtgcc gcagcattaa gtgggggcgc		836
Pro Phe Gln Ile		
210		
cttattattt cttattatta attattatta ttttctgga accacgtggg agccctcccc	896	
gcctgggtcg gagggagtgg ttgtggaggg tgagatgcct cccacttctg gctggagacc	956	
tcatcccacc tctcaggggt gggggtgctc ccctcctggc gctccctccg ggtccccct	1016	
ggttgttagca gcttgtgtct gggccagga cctgaattcc actcctaccc ctccatgttt	1076	
acatattccc agtatcttg cacaaccag ggtcgggga ggtctctgg cttcattttt	1136	
ctgctgtgca gaatatccta tttatattt ttacagccag ttaggtaat aaactttatt	1196	
atgaaagttt tttttaaaa gaaaaaaaaaaaaaaaaaaaaaaaa	1235	

<210> 4  
 <211> 212  
 <212> PRT  
 <213> Mus musculus

<400> 4			
Met Val Ala Arg Asn Gln Val Ala Ala Asp Asn Ala Ile Ser Pro Ala			
1	5	10	15
Ala Glu Pro Arg Arg Ser Glu Pro Ser Ser Ser Ser Ser Ser			
20	25		30
Ser Pro Ala Ala Pro Val Arg Pro Arg Pro Cys Pro Ala Val Pro Ala			
35	40		45
Pro Ala Pro Gly Asp Thr His Phe Arg Thr Phe Arg Ser His Ser Asp			
50	55		60
Tyr Arg Arg Ile Thr Arg Thr Ser Ala Leu Leu Asp Ala Cys Gly Phe			
65	70	75	80
Tyr Trp Gly Pro Leu Ser Val His Gly Ala His Glu Arg Leu Arg Ala			
85	90		95
Glu Pro Val Gly Thr Phe Leu Val Arg Asp Ser Arg Gln Arg Asn Cys			
100	105		110
Phe Phe Ala Leu Ser Val Lys Met Ala Ser Gly Pro Thr Ser Ile Arg			
115	120		125
Val His Phe Gln Ala Gly Arg Phe His Leu Asp Gly Ser Arg Glu Thr			
130	135		140

Phe Asp Cys Leu Phe Glu Leu Leu Glu His Tyr Val Ala Ala Pro Arg  
145 150 155 160

Arg Met Leu Gly Ala Pro Leu Arg Gln Arg Arg Val Arg Pro Leu Gln  
165 170 175

Glu Leu Cys Arg Gln Arg Ile Val Ala Ala Val Gly Arg Glu Asn Leu  
180 185 190

Ala Arg Ile Pro Leu Asn Pro Val Leu Arg Asp Tyr Leu Ser Ser Phe  
195 200 205

Pro Phe Gln Ile  
210

<210> 5

<211> 1121

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (223)..(819)

<400> 5

gcgatctgtg ggtgacagtg tctgcgagag actttgccac accattctgc cgaaatttgg 60  
agaaaaaagaa ccagccgctt ccagtcctt cccctccgc caccatttcg gacaccctgc 120  
acactctcgt tttggggta cctgtgactt ccaggcagca cgcgaggtcc actggcccc 180  
gctcgggcga ccagctgtct gggacgtgtt gactcatctc cc atg acc ctg cgg 234  
Met Thr Leu Arg  
1

tgc ctg gag ccc tcc ggg aat gga gcg gac agg acg cgg agc cag tgg 282  
Cys Leu Glu Pro Ser Gly Asn Gly Ala Asp Arg Thr Arg Ser Gln Trp  
5 10 15 20

ggg acc gcg ggg ttg ccg gag gaa cag tcc ccc gag gcg gcg cgt ctg 330  
Gly Thr Ala Gly Leu Pro Glu Glu Gln Ser Pro Glu Ala Ala Arg Leu  
25 30 35

gcg aaa gcc ctg cgc gag ctc agt caa aca gga tgg tac tgg gga agt 378  
Ala Lys Ala Leu Arg Glu Leu Ser Gln Thr Gly Trp Tyr Trp Gly Ser  
40 45 50

atg act gtt aat gaa gcc aaa gag aaa tta aaa gag gct cca gaa gga 426  
Met Thr Val Asn Glu Ala Lys Glu Lys Leu Lys Glu Ala Pro Glu Gly  
55 60 65

act ttc ttg att aga gat agt tcg cat tca gac tac cta cta act ata 474  
Thr Phe Leu Ile Arg Asp Ser Ser His Ser Asp Tyr Leu Leu Thr Ile  
70 75 80

tcc gtt aag acg tca gct gga ccg act aac ctg cg <sup>g</sup> att gag tac caa	522
Ser Val Lys Thr Ser Ala Gly Pro Thr Asn Leu Arg Ile Glu Tyr Gln	
85 90 95 100	
gat ggg aaa ttc aga ttg gat tct atc ata tgt gtc aag tcc aag ctt	570
Asp Gly Lys Phe Arg Leu Asp Ser Ile Ile Cys Val Lys Ser Lys Leu	
105 110 115	
aaa cag ttt gac agt gtg gtt cat ctg att gac tac tat gtc cag atg	618
Lys Gln Phe Asp Ser Val Val His Leu Ile Asp Tyr Tyr Val Gln Met	
120 125 130	
tgc aag gat aaa cgg aca ggc cca gaa gcc cca cgg aat ggg act gtt	666
Cys Lys Asp Lys Arg Thr Gly Pro Glu Ala Pro Arg Asn Gly Thr Val	
135 140 145	
cac ctg tac ctg acc aaa cct ctg tat aca tca gca ccc act ctg cag	714
His Leu Tyr Leu Thr Lys Pro Leu Tyr Thr Ser Ala Pro Thr Leu Gln	
150 155 160	
cat ttc tgt cga ctc gcc att aac aaa tgt acc ggt acg atc tgg gga	762
His Phe Cys Arg Leu Ala Ile Asn Lys Cys Thr Gly Thr Ile Trp Gly	
165 170 175 180	
ctg cct tta cca aca aga cta aaa gat tac ttg gaa gaa tat aaa ttc	810
Leu Pro Leu Pro Thr Arg Leu Lys Asp Tyr Leu Glu Glu Tyr Lys Phe	
185 190 195	
cag gta taagtatttc tctcttttt tcgtttttt taaaaaaaaaaa aaaaacacat	866
Gln Val	
gcctcatata gactatctcc gaatgcagct atgtgaaaga gaacccagag gccctcctct	926
ggataactgc gcagaattct ctcttaagga cagttgggct cagtcact taaaggtgtg	986
aagatgtgc taggtatttt aaagttcccc ttaggttagtt ttagctgaat gatgctttct	1046
ttcctatggc tgctcaagat caaatggccc tttaaatga aacaaaacaa aacaaaacaa	1106
aaaaaaaaaaa aaaaa	1121

<210> 6  
 <211> 198  
 <212> PRT  
 <213> Mus musculus

<400> 6

Met Thr Leu Arg Cys Leu Glu Pro Ser Gly Asn Gly Ala Asp Arg Thr	
1 5 10 15	
Arg Ser Gln Trp Gly Thr Ala Gly Leu Pro Glu Glu Gln Ser Pro Glu	
20 25 30	

Ala Ala Arg Leu Ala Lys Ala Leu Arg Glu Leu Ser Gln Thr Gly Trp  
35 40 45

Tyr Trp Gly Ser Met Thr Val Asn Glu Ala Lys Glu Lys Leu Lys Glu  
50 55 60

Ala Pro Glu Gly Thr Phe Leu Ile Arg Asp Ser Ser His Ser Asp Tyr  
65 70 75 80

Leu Leu Thr Ile Ser Val Lys Thr Ser Ala Gly Pro Thr Asn Leu Arg  
85 90 95

Ile Glu Tyr Gln Asp Gly Lys Phe Arg Leu Asp Ser Ile Ile Cys Val  
100 105 110

Lys Ser Lys Leu Lys Gln Phe Asp Ser Val Val His Leu Ile Asp Tyr  
115 120 125

Tyr Val Gln Met Cys Lys Asp Lys Arg Thr Gly Pro Glu Ala Pro Arg  
130 135 140

Asn Gly Thr Val His Leu Tyr Leu Thr Lys Pro Leu Tyr Thr Ser Ala  
145 150 155 160

Pro Thr Leu Gln His Phe Cys Arg Leu Ala Ile Asn Lys Cys Thr Gly  
165 170 175

Thr Ile Trp Gly Leu Pro Leu Pro Thr Arg Leu Lys Asp Tyr Leu Glu  
180 185 190

Glu Tyr Lys Phe Gln Val  
195

<210> 7

<211> 2187

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (18)..(695)

<400> 7

cgctggctcc gtgcgcc atg gtc acc cac agc aag ttt ccc gcc gcc ggg 50  
Met Val Thr His Ser Lys Phe Pro Ala Ala Gly  
1 5 10

atg agc cgc ccc ctg gac acc agc ctg cgc ctc aag acc ttc agc tcc 98  
Met Ser Arg Pro Leu Asp Thr Ser Leu Arg Leu Lys Thr Phe Ser Ser  
15 20 25

aaa agc gag tac cag ctg gtg aac gcc gtg cgc aag ctg cag gag 146  
Lys Ser Glu Tyr Gln Leu Val Val Asn Ala Val Arg Lys Leu Gln Glu  
30 35 40

agc gga ttc tac tgg agc gcc gtg acc ggc ggc gag gcg aac ctg ctg	194
Ser Gly Phe Tyr Trp Ser Ala Val Thr Gly Gly Glu Ala Asn Leu Leu	
45 50 55	
ctc agc gcc gag ccc gcg ggc acc ttt ctt atc cgc gac agc tcg gac	242
Leu Ser Ala Glu Pro Ala Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp	
60 65 70 75	
cag cgc cac ttc ttc acg ttg agc gtc aag acc cag tcg ggg acc aag	290
Gln Arg His Phe Phe Thr Leu Ser Val Lys Thr Gln Ser Gly Thr Lys	
80 85 90	
aac cta cgc atc cag tgt gag ggg ggc agc ttt tcg ctg cag agt gac	338
Asn Leu Arg Ile Gln Cys Glu Gly Ser Phe Ser Leu Gln Ser Asp	
95 100 105	
ccc cga agc acg cag cca gtt ccc cgc ttc gac tgt gta ctc aag ctg	386
Pro Arg Ser Thr Gln Pro Val Pro Arg Phe Asp Cys Val Leu Lys Leu	
110 115 120	
gtg cac cac tac atg ccg cct cca ggg acc ccc tcc ttt tct ttg cca	434
Val His His Tyr Met Pro Pro Pro Gly Thr Pro Ser Phe Ser Leu Pro	
125 130 135	
ccc acg gaa ccc tcg tcc gaa gtt ccg gag cag cca cct gcc cag gca	482
Pro Thr Glu Pro Ser Ser Glu Val Pro Glu Gln Pro Pro Ala Gln Ala	
140 145 150 155	
ctc ccc ggg agt acc ccc aag aga gct tac tac atc tat tct ggg ggc	530
Leu Pro Gly Ser Thr Pro Lys Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly	
160 165 170	
gag aag att ccg ctg gta ctg agc cga cct ctc tcc tcc aac gtg gcc	578
Glu Lys Ile Pro Leu Val Leu Ser Arg Pro Leu Ser Ser Asn Val Ala	
175 180 185	
acc ctc cag cat ctt tgt cgg aag act gtc aac ggc cac ctg gac tcc	626
Thr Leu Gln His Leu Cys Arg Lys Thr Val Asn Gly His Leu Asp Ser	
190 195 200	
tat gag aaa gtg acc cag ctg cct gga ccc att cgg gag ttc ctg gat	674
Tyr Glu Lys Val Thr Gln Leu Pro Gly Pro Ile Arg Glu Phe Leu Asp	
205 210 215	
cag tat gat gct cca ctt taaggagcaa aagggtcaga gggggcctg	722
Gln Tyr Asp Ala Pro Leu	
220 225	
ggtcggtcgg tcgcctctcc tccgaggcac atggcacaag cacaatac cagcccaac	782
ggtcggtagc tcccagttagc ccagggcag attggcttct tcctcaggcc ctccactccc	842
gcagagtaga gctggcagga cctggattc gtctgagggg agggggagct gccacctgct	902
ttccccccctc ccccagctcc agtttttc aagtggagcc agccggcctg gcctggggg	962

acaataacctt tgacaagcgg actctccctt ccccttcctc cacacccctt ctgctccca 1022  
agggaggtgg ggacacctcc aagtgtgaa cttagaactg caagggaaat cttcaaactt 1082  
tcccgctgga acttgtttgc gcttgattt ggttgatca agagcaggca cctggggaa 1142  
ggatggaaga gaaaagggtg tgtgaagggt tttatgctg gccaaagaaa taaccactcc 1202  
caactgccc aa cctaggtgag gagtgggtggc tcctggctct gggagagtg gcaaggggtg 1262  
acctgaagag agctataactg gtgccaggct cctctccatg gggcagctaa tgaaacctcg 1322  
cagatccctt gcacccca gaccccccgg ttgtgaagag gcagtagcat tttagaaggaa 1382  
gacagatgag gctggtgagc tggccgcctt ttccaacacc gaagggaggc agatcaacag 1442  
atgagccatc ttggagccca ggttccctt ggagcagatg gagggttctg ctttgcctct 1502  
cctatgtggg gctaggagac tcgccttaaa tgccctctgt cccagggatg gggattggca 1562  
cacaaggagc caaacacagc caataggcag agagttgagg gattcacccca ggtggctaca 1622  
ggccaggggaa agtggctgca ggggagagac ccagtcactc caggagactc ctgagttAAC 1682  
actgggaaga cattggccag tcctagtcat ctctcggtca gtaggtccga gagctccag 1742  
gccctgcaca gccctcctt ctcacctggg gggaggcagg aggtgatggaa gaagccttcc 1802  
catgcccctc acaggggcct cacggaaatg cagcagccat gcaattaccc ggaactggc 1862  
ctgtgttggg gagaaacaag tttctgaag tcaggtatgg ggctgggtgg ggcagctgtg 1922  
tgggggtg gctttttct ctctgtttt aataatgtt acaatttgc tcaatcactt 1982  
ttataaaaat ccacctccag cccgcccctc tccccactca ggccttcgag gctgtctgaa 2042  
gatgcttggaa aaactcaacc aaatcccagt tcaactcaga ctttgcacat atatttat 2102  
ttataactcag aaaagaaaca ttccagtaat ttataataaa agagcactat ttttaatga 2162  
aaaaaaaaaa aaaaaaaaaaa aaaaaa 2187

<210> 8  
<211> 225  
<212> PRT  
<213> Mus musculus

<400> 8  
Met Val Thr His Ser Lys Phe Pro Ala Ala Gly Met Ser Arg Pro Leu  
1 5 10 .. 15  
  
Asp Thr Ser Leu Arg Leu Lys Thr Phe Ser Ser Lys Ser Glu Tyr Gln  
20 25 30

Leu Val Val Asn Ala Val Arg Lys Leu Gln Glu Ser Gly Phe Tyr Trp  
35 40 45

Ser Ala Val Thr Gly Gly Glu Ala Asn Leu Leu Ser Ala Glu Pro  
50 55 60

Ala Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp Gln Arg His Phe Phe  
65 70 75 80

Thr Leu Ser Val Lys Thr Gln Ser Gly Thr Lys Asn Leu Arg Ile Gln  
85 90 95

Cys Glu Gly Gly Ser Phe Ser Leu Gln Ser Asp Pro Arg Ser Thr Gln  
100 105 110

Pro Val Pro Arg Phe Asp Cys Val Leu Lys Leu Val His His Tyr Met  
115 120 125

Pro Pro Pro Gly Thr Pro Ser Phe Ser Leu Pro Pro Thr Glu Pro Ser  
130 135 140

Ser Glu Val Pro Glu Gln Pro Pro Ala Gln Ala Leu Pro Gly Ser Thr  
145 150 155 160

Pro Lys Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly Glu Lys Ile Pro Leu  
165 170 175

Val Leu Ser Arg Pro Leu Ser Ser Asn Val Ala Thr Leu Gln His Leu  
180 185 190

Cys Arg Lys Thr Val Asn Gly His Leu Asp Ser Tyr Glu Lys Val Thr  
195 200 205

Gln Leu Pro Gly Pro Ile Arg Glu Phe Leu Asp Gln Tyr Asp Ala Pro  
210 215 220

Leu  
225

<210> 9

<211> 1094

<212> DNA

<213> Homo sapiens

<400> 9

ctccggctgg ccccttctgt aggatggtag cacacaacca ggtggcagcc gacaatgcag 60

tctccacagc agcagagccc cgacggcggc cagaaccttc ctcttcttcc tcctcctcgc 120

ccgcggcccc cgcgcgcccc cggccgtgcc ccgcggtccc ggccccggcc cccggcgaca 180

cgcacttccg cacattccgt tcgcacgccc attaccggcg catcacgcgc gccagcgcgc 240

tcctggacgc ctgcggattc tactgggggc ccctgagcgt gcacggggcg cacgagcggc 300

tgcgccgcca gcccgtgggc accttcctgg tgcgcgacag ccgccagcgg aactgcttt 360  
tcgccccttag cgtgaagatg gcctcggac ccacgagcat ccgcgtgcac tttcaggccg 420  
gccgcttca cctggatggc agccgcgaga gcttcgactg cctttcgag ctgctggagc 480  
actacgtggc ggcgcccgcgc cgcatgctgg gggccccgct gcccgcgcgc cgcgtgcggc 540  
cgctgcagga gctgtgccgc cagcgcatcg tggccaccgt gggccgcgag aacctggctc 600  
gcatccccct caaccccgtc ctccgcgact acctgagctc cttcccttc cagatttgcac 660  
cggcagcgcc cgccgtgcac gcagcattaa ctggatgcc gtgttatttt gttattactt 720  
gcctggaacc atgtgggtac cctcccccgc ctgggttggg gggagcggat ggggtgttaggg 780  
gcgaggcgcc tcccgccctc ggctggagac gaggccgcag accccttctc acctcttgcag 840  
ggggtcctcc ccctcctggt gctccctctg ggtccccctg gttgtttag cagcttaact 900  
gtatctggag ccaggacctg aactcgcacc tcctacctct tcattttac atataccag 960  
tatcttgca caaaccaggg gttggggag ggtctctggc tttattttc tgctgtgcag 1020  
aatcctattt tatattttt aaagtcagtt taggtaataa actttattat gaaagtttt 1080  
ttttttaaaa aaaa 1094

<210> 10  
<211> 211  
<212> PRT  
<213> Homo sapiens

<400> 10  
Met Val Ala His Asn Gln Val Ala Ala Asp Asn Ala Val Ser Thr Ala  
1 5 10 15  
Ala Glu Pro Arg Arg Arg Pro Glu Pro Ser Ser Ser Ser Ser Ser  
20 25 30  
Pro Ala Ala Pro Ala Arg Pro Arg Pro Cys Pro Ala Val Pro Ala Pro  
35 40 45  
Ala Pro Gly Asp Thr His Phe Arg Thr Phe Arg Ser His Ala Asp Tyr  
50 55 60  
Arg Arg Ile Thr Arg Ala Ser Ala Leu Leu Asp Ala Cys Gly Phe Tyr  
65 70 75 80  
Trp Gly Pro Leu Ser Val His Gly Ala His Glu Arg Leu Arg Ala Glu  
85 90 95  
Pro Val Gly Thr Phe Leu Val Arg Asp Ser Arg Gln Arg Asn Cys Phe  
100 105 110

Phe Ala Leu Ser Val Lys Met Ala Ser Gly Pro Thr Ser Ile Arg Val  
115 120 125

His Phe Gln Ala Gly Arg Phe His Leu Asp Gly Ser Arg Glu Ser Phe  
130 135 140

Asp Cys Leu Phe Glu Leu Leu Glu His Tyr Val Ala Ala Pro Arg Arg  
145 150 155 160

Met Leu Gly Ala Pro Leu Arg Gln Arg Arg Val Arg Pro Leu Gln Glu  
165 170 175

Leu Cys Arg Gln Arg Ile Val Ala Thr Val Gly Arg Glu Asn Leu Ala  
180 185 190

Arg Ile Pro Leu Asn Pro Val Leu Arg Asp Tyr Leu Ser Ser Phe Pro  
195 200 205

Phe Gln Ile  
210

<210> 11

<211> 2807

<212> DNA

<213> Rattus norvegicus

<400> 11

ggaaaccgag gcggggagac caggaggcct tggcctcaga gcttcagagt cgcgtggcag 60  
caaacagaga aacctgtaga gggcagtgtg cgtcacttag ctcaggaaag ctgcacgcga 120  
aactcaccgg cttcattca taaacatcg t cagctaggca cctactcctg ggcttcagg 180  
acaaaactgaa tcacgaaacc acagtgtcct taaaataggt ctgaccgcct gaatccctgg 240  
ccaagggtgtg tacggggcat gggagccctt gtgcagagat gcttgcagga gccttgaggg 300  
gctctgtaag acagaggcta ggaagacaaa gttggggct acagcttctt gtcctgccc 360  
gggcctcagt ttcttcgggtt gcccacgtag gagtcagag agtccagcc ctggggaccc 420  
aacccttacccc cgccttacccc ccgaggaact cgtccggag cggggcgcc cctcccgac 480  
cgcccttaggc ttcccttgaa gcctctgcgg tcaggccacc gcttcctggg aagcccaagc 540  
caaggccagg ccgagttggcc aacggggaggg gcccgcgc gattctggag gagggcggcg 600  
gccccacagg tctccaggcc tggctagccg ggctcctaga gcggagactg ccaaggcctt 660  
cggttcctgg gcaggaagga tcctggcagg gaggagttgc ttgggggggtg ggggggaaag 720  
gctccaggccg cggtggagct ctgaccagga gaatgcacac actcggaggg gaggaggcgt 780  
gtcagcccca agctagcatc ccaccgggg agcagcgatg tggggcgaag gtagccagag 840

caaaagagca ggcaccaggt gacacgaaac agaagattcc gggtagagcc agaaccagg 900  
aagtcccatt cagggaaagggt gcgaggcgag aacgagttag gtggaccctc tccagggca 960  
gccaaagaaa tctaaagaga acccgaagga cttgccgaa agagaaaccg aaagcggcgg 1020  
tgggcgggat cgggtggcggt ggcctccctg gtttaagagc ttgatgcagg ggccggcagc 1080  
agcagagaga actgcggccg tggcagcggc acggctcccg gccccggagc atgcgcgaca 1140  
gcagccccgg aaccccccagc cgccggcggcc cgccgtccgc cgccaggtga gccgaggcag 1200  
ctgcgaagga gcaggcggtt gggatggga ggaaggggag cagagcctgg caggactatc 1260  
ctcgcagact gcatggcggtt gtcgtggatg ctatgcctct ggccggccgc ccaccggctg 1320  
gcccaggcggtt cccctcgccg gcgcggggcg ccgtcagccc ctccctctccg gcccgtgagcc 1380  
cggatcggtcc gcccgggttc cagttcccg cgtggccagt aggcggcaac cgccaggcggtt 1440  
caagccaccc agcggggacg gcctggagtc gggccctct ccacgcccc ttctccacgc 1500  
gcgcggggag gcagggttcc accgcccagtc tggaagggtt ccacatacag gaacggccta 1560  
cttcgcagat gagcccaccc aggctcaggc tccggcggtt ttctgcgtgt caccctcgct 1620  
ccttgggttc cgctggcggtt cctgtgccac ccggacgccc gggtcactgc ctctgtctcc 1680  
cccatcagcg cagccccggc cgctatggcc cacccttcca gctggccctt cgagttaggat 1740  
ggtagcacgt aaccaggtgg aagccgacaa tgcgatctcc ccggcatcag agccccgacg 1800  
gcggccagag ccacccctcggtt cctcgcttcc gtcctcgccg gcggcccccgg cgccgtcccg 1860  
gcccgtcccg gtggtcccggtt ccccggttcc gggcgacact cacttccgca cttccgctc 1920  
ccactctgtat taccggcgca tcacgcggac cagcgcttc ctggacgcct gcggcttcta 1980  
ctggggaccc ctgagcgtgc atggggcgca cgaacggctg cggtccgaac ccgtgggcac 2040  
cttcttgggtt cgccgacagtc gccagcggtt ccaggccggc cgccgtccacc tggacggcaa 2100  
ttcggggccccc acgagcattt gtgtgcactt ccaggccggc cgccgtccacc tggacggcaa 2160  
ccgcgagacc ttcgactgcc tcttcgagct gctggagcac tacgtggcggtt ccggccggccg 2220  
catgttgggg gccccactgc gccagcgccg cgtgcggccg ctgcaggagc tgtgtcgcca 2280  
gcgcacgtgc gcccgtgg gtcgcgagaa cctggcacgc atcccttta acccggtact 2340  
ccgtgactac ctgagttccct tcccccgtgg gatctgacccg gctggccggc tgcccgaga 2400  
atataatgtggg agcgccttat tatttcttat tattataattt tattatgtt ctgaaaccac 2460  
gtggggagccc tcccccgtgg gtcgcgaggg agtgggtgtt gagggtgaga tccctccac 2520

ttctggctgg agaccttatac ccgcctctcg gggggcctcc ctcctggtg ctccctccg 2580  
gtccccctgg ttgttagcagc ttgtgtctgg ggccaggacc tgaactccac gcctacctct 2640  
ccatgtttac atgttcccag tatcttgca caaaccaggg gtgggggagg gtctctggct 2700  
tcattttct gctgtgcaga atattctatt ttatatttt acatccagtt tagataataa 2760  
actttattat gaaagttttt tttttaaag aaacaaagat ttctaga 2807

<210> 12  
<211> 212  
<212> PRT  
<213> Rattus norvegicus

<400> 12

Met	Val	Ala	Arg	Asn	Gln	Val	Glu	Ala	Asp	Asn	Ala	Ile	Ser	Pro	Ala
1					5					10					15
Ser	Glu	Pro	Arg	Arg	Arg	Pro	Glu	Pro	Ser						
					20				25						30
Ser	Pro	Ala	Ala	Pro	Ala	Arg	Pro	Arg	Pro	Cys	Pro	Val	Val	Pro	Ala
					35			40							45
Pro	Ala	Pro	Gly	Asp	Thr	His	Phe	Arg	Thr	Phe	Arg	Ser	His	Ser	Asp
					50			55							60
Tyr	Arg	Arg	Ile	Thr	Arg	Thr	Ser	Ala	Leu	Leu	Asp	Ala	Cys	Gly	Phe
					65			70			75				80
Tyr	Trp	Gly	Pro	Leu	Ser	Val	His	Gly	Ala	His	Glu	Arg	Leu	Arg	Ser
					85			90							95
Glu	Pro	Val	Gly	Thr	Phe	Leu	Val	Arg	Asp	Ser	Arg	Gln	Arg	Asn	Cys
					100			105							110
Phe	Phe	Ala	Leu	Ser	Val	Lys	Met	Ala	Ser	Gly	Pro	Thr	Ser	Ile	Arg
					115			120							125
Val	His	Phe	Gln	Ala	Gly	Arg	Phe	His	Leu	Asp	Gly	Asn	Arg	Glu	Thr
					130			135							140
Phe	Asp	Cys	Leu	Phe	Glu	Leu	Leu	Glu	His	Tyr	Val	Ala	Ala	Pro	Arg
					145			150			155				160
Arg	Met	Leu	Gly	Ala	Pro	Leu	Arg	Gln	Arg	Arg	Val	Arg	Pro	Leu	Gln
					165			170							175
Glu	Leu	Cys	Arg	Gln	Arg	Ile	Val	Ala	Ala	Val	Gly	Arg	Glu	Asn	Leu
					180			185							190
Ala	Arg	Ile	Pro	Leu	Asn	Pro	Val	Leu	Arg	Asp	Tyr	Leu	Ser	Ser	Phe
					195			200							205

Pro Phe Gln Ile  
210

<210> 13

<211> 1611

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (263)..(1525)

<400> 13

cgaattccgg gccccgtgtg tgagtctgtg agtggaaaggc gccccggctc ttttgtctga 60

gtgtgaccccg gtggctttgt tccaggcatt ccgggtgattt cctccgggca gtccgcagaa 120

gccgcagcgg cccgcggcgc tctctctgca gtctccacac ccgggagagc ctgagccgc 180

gtcacgcggc tcagcccccg ctgagtcctt tctctgttgc cgcgtccgaa tcgagttccc 240

ggaatcagac ggtgccccat ag atg gcc agc ttt ccc ccg agg gtt aac gag 292

Met Ala Ser Phe Pro Pro Arg Val Asn Glu

1

5

10

aaa gag atc gtg aga tca cgt act ata ggg gaa ctc ttg gct cca gca 340

Lys Glu Ile Val Arg Ser Arg Thr Ile Gly Glu Leu Leu Ala Pro Ala

15

20

25

gct cct ttt gac aag aaa tgt ggt gag aac tgg acg gtt gct ttt 388

Ala Pro Phe Asp Lys Lys Cys Gly Gly Glu Asn Trp Thr Val Ala Phe

30

35

40

gct cct gat ggt tcc tac ttt gcg tgg tca caa gga tat cgc ata gtg 436

Ala Pro Asp Gly Ser Tyr Phe Ala Trp Ser Gln Gly Tyr Arg Ile Val

45

50

55

aag ctt gtc ccg tgg tcc cag tgc cgt aag aac ttt ctt ttg cat ggt 484

Lys Leu Val Pro Trp Ser Gln Cys Arg Lys Asn Phe Leu Leu His Gly

60

65

70

tcc aaa aat gtt acc aat tca agc tgt cta aaa ttg gca aga caa aac 532

Ser Lys Asn Val Thr Asn Ser Ser Cys Leu Lys Leu Ala Arg Gln Asn

75

80

85

90

agt aat ggt ggt cag aaa aac aag cct cct gag cac gtt ata gac tgt 580

Ser Asn Gly Gly Gln Lys Asn Lys Pro Pro Glu His Val Ile Asp Cys

95

100

105

gga gac ata gtc tgg agt ctt gct ttt ggg tct tca gtt cca gaa aaa 628

Gly Asp Ile Val Trp Ser Leu Ala Phe Gly Ser Ser Val Pro Glu Lys

110

115

120

cag agt cgt tgc gtt aat ata gaa tgg cat cgg ttc cga ttt gga cag 676

Gln Ser Arg Cys Val Asn Ile Glu Trp His Arg Phe Arg Phe Gly Gln			
125	130	135	
gat cag cta ctc ctt gcc aca gga tta aac aat ggt cgc atc aaa atc			724
Asp Gln Leu Leu Leu Ala Thr Gly Leu Asn Asn Gly Arg Ile Lys Ile			
140	145	150	
tgg gat gta tat aca gga aaa ctc ctc ctt aat ttg gta gac cac att			772
Trp Asp Val Tyr Thr Gly Lys Leu Leu Asn Leu Val Asp His Ile			
155	160	165	170
gaa atg gtt aga gat tta act ttt gct cca gat ggg agc tta ctc ctt			820
Glu Met Val Arg Asp Leu Thr Phe Ala Pro Asp Gly Ser Leu Leu			
175	180	185	
gta tca gct tca aga gac aaa act cta aga gtg tgg gac ctg aaa gat			868
Val Ser Ala Ser Arg Asp Lys Thr Leu Arg Val Trp Asp Leu Lys Asp			
190	195	200	
gat gga aac atg gtg aaa gta ttg cgg gca cat cag aat tgg gtg tac			916
Asp Gly Asn Met Val Lys Val Leu Arg Ala His Gln Asn Trp Val Tyr			
205	210	215	
agt tgt gca ttc tct ccc gac tgt tct atg ctg tgt tca gtg ggc gcc			964
Ser Cys Ala Phe Ser Pro Asp Cys Ser Met Leu Cys Ser Val Gly Ala			
220	225	230	
agt aaa gca gtt ttc ctt tgg aat atg gat aaa tac acc atg att agg			1012
Ser Lys Ala Val Phe Leu Trp Asn Met Asp Lys Tyr Thr Met Ile Arg			
235	240	245	250
aag ctg gaa ggt cat cac cat gat gtt gta gct tgt gac ttt tct cct			1060
Lys Leu Glu Gly His His Asp Val Val Ala Cys Asp Phe Ser Pro			
255	260	265	
gat gga gca ttg cta gct act gca tcc tat gac act cgt gtg tat gtc			1108
Asp Gly Ala Leu Leu Ala Thr Ala Ser Tyr Asp Thr Arg Val Tyr Val			
270	275	280	
tgg gat cca cac aat gga gac ctt ctg atg gag ttt ggg cac ctg ttt			1156
Trp Asp Pro His Asn Gly Asp Leu Leu Met Glu Phe Gly His Leu Phe			
285	290	295	
ccc tcg ccc act cca ata ttt gct gga gga gca aat gac cga tgg gtg			1204
Pro Ser Pro Thr Pro Ile Phe Ala Gly Gly Ala Asn Asp Arg Trp Val			
300	305	310	
aga gct gtg tct ttc agt cat gat gga ctg cat gtt gcc agc ctt gct			1252
Arg Ala Val Ser Phe Ser His Asp Gly Leu His Val Ala Ser Leu Ala			
315	320	325	330
gat gat aaa atg gtg agg ttc tgg aga atc gat gag gat tgt ccg gta			1300
Asp Asp Lys Met Val Arg Phe Trp Arg Ile Asp Glu Asp Cys Pro Val			
335	340	345	
caa gtt gca cct ttg agc aat ggt ctt tgc tgt gcc ttt tct act gat			1348

Gln	Val	Ala	Pro	Leu	Ser	Asn	Gly	Leu	Cys	Cys	Ala	Phe	Ser	Thr	Asp	
350								355					360			
ggc	agt	gtt	tta	gct	gct	ggg	aca	cat	gat	gga	agt	gtg	tat	ttt	tgg	1396
Gly	Ser	Val	Leu	Ala	Ala	Gly	Thr	His	Asp	Gly	Ser	Val	Tyr	Phe	Trp	
365							370					375				
gcc	act	cca	agg	caa	gtc	cct	agc	ctt	caa	cat	ata	tgt	cgc	atg	tca	1444
Ala	Thr	Pro	Arg	Gln	Val	Pro	Ser	Leu	Gln	His	Ile	Cys	Arg	Met	Ser	
380							385					390				
atc	cga	aga	gtg	atg	tcc	acc	caa	gaa	gtc	caa	aaa	ctg	cct	gtt	cct	1492
Ile	Arg	Arg	Val	Met	Ser	Thr	Gln	Glu	Val	Gln	Lys	Leu	Pro	Val	Pro	
395						400					405			410		
tcc	aaa	ata	ttg	gcg	ttt	ctc	tcc	tac	cgc	ggt	tag	a	ctgaagactg		1539	
Ser	Lys	Ile	Leu	Ala	Phe	Leu	Ser	Tyr	Arg	Gly						
						415				420						
cctttcctgg	taggcctgcc	agacagagcg	ccctttacaa	gacacacacc	aagctttacc											1599
tcgtgccgaa	tt															1611
<210> 14																
<211> 421																
<212> PRT																
<213> Mus musculus																
<400> 14																
Met	Ala	Ser	Phe	Pro	Pro	Arg	Val	Asn	Glu	Lys	Glu	Ile	Val	Arg	Ser	
1					5				10				15			
Arg	Thr	Ile	Gly	Glu	Leu	Leu	Ala	Pro	Ala	Ala	Pro	Phe	Asp	Lys	Lys	
					20				25				30			
Cys	Gly	Gly	Glu	Asn	Trp	Thr	Val	Ala	Phe	Ala	Pro	Asp	Gly	Ser	Tyr	
					35				40				45			
Phe	Ala	Trp	Ser	Gln	Gly	Tyr	Arg	Ile	Val	Lys	Leu	Val	Pro	Trp	Ser	
					50				55				60			
Gln	Cys	Arg	Lys	Asn	Phe	Leu	Leu	His	Gly	Ser	Lys	Asn	Val	Thr	Asn	
					65				70			75		80		
Ser	Ser	Cys	Leu	Lys	Leu	Ala	Arg	Gln	Asn	Ser	Asn	Gly	Gly	Gln	Lys	
					85				90				95			
Asn	Lys	Pro	Pro	Glu	His	Val	Ile	Asp	Cys	Gly	Asp	Ile	Val	Trp	Ser	
					100				105				110			
Leu	Ala	Phe	Gly	Ser	Ser	Val	Pro	Glu	Lys	Gln	Ser	Arg	Cys	Val	Asn	
					115				120				125			
Ile	Glu	Trp	His	Arg	Phe	Arg	Phe	Gly	Gln	Asp	Gln	Leu	Leu	Leu	Ala	
					130				135				140			

Thr Gly Leu Asn Asn Gly Arg Ile Lys Ile Trp Asp Val Tyr Thr Gly  
145 150 155 160

Lys Leu Leu Leu Asn Leu Val Asp His Ile Glu Met Val Arg Asp Leu  
165 170 175

Thr Phe Ala Pro Asp Gly Ser Leu Leu Leu Val Ser Ala Ser Arg Asp  
180 185 190

Lys Thr Leu Arg Val Trp Asp Leu Lys Asp Asp Gly Asn Met Val Lys  
195 200 205

Val Leu Arg Ala His Gln Asn Trp Val Tyr Ser Cys Ala Phe Ser Pro  
210 215 220

Asp Cys Ser Met Leu Cys Ser Val Gly Ala Ser Lys Ala Val Phe Leu  
225 230 235 240

Trp Asn Met Asp Lys Tyr Thr Met Ile Arg Lys Leu Glu Gly His His  
245 250 255

His Asp Val Val Ala Cys Asp Phe Ser Pro Asp Gly Ala Leu Leu Ala  
260 265 270

Thr Ala Ser Tyr Asp Thr Arg Val Tyr Val Trp Asp Pro His Asn Gly  
275 280 285

Asp Leu Leu Met Glu Phe Gly His Leu Phe Pro Ser Pro Thr Pro Ile  
290 295 300

Phe Ala Gly Gly Ala Asn Asp Arg Trp Val Arg Ala Val Ser Phe Ser  
305 310 315 320

His Asp Gly Leu His Val Ala Ser Leu Ala Asp Asp Lys Met Val Arg  
325 330 335

Phe Trp Arg Ile Asp Glu Asp Cys Pro Val Gln Val Ala Pro Leu Ser  
340 345 350

Asn Gly Leu Cys Cys Ala Phe Ser Thr Asp Gly Ser Val Leu Ala Ala  
355 360 365

Gly Thr His Asp Gly Ser Val Tyr Phe Trp Ala Thr Pro Arg Gln Val  
370 375 380

Pro Ser Leu Gln His Ile Cys Arg Met Ser Ile Arg Arg Val Met Ser  
385 390 395 400

Thr Gln Glu Val Gln Lys Leu Pro Val Pro Ser Lys Ile Leu Ala Phe  
405 410 415

Leu Ser Tyr Arg Gly  
420

<210> 15

<211> 783  
<212> DNA  
<213> Homo sapiens

<400> 15  
ctgtcttcct ccgcagcgcg aggctggta cagggtctat tgtctgtgg tgactccgta 60  
ctttggctcg aggccctcgg gagcttccc gaggcagttt gcagaagccg cagcgaccgc 120  
ccccggccgt ctcctctgtc cctggggcccg ggagacaaac ttggcgtcac gccctcagcg 180  
gtcgccactc tcttctctgt ttttgggtcc gcatcgatt cccggaatca gacggtgccc 240  
catagatggc cagcttccc ccgagggtca acgagaaaga gatcgtgaga tcacgtacta 300  
taggtgaact tttagcttcct gcagctcctt ttgacaagaa atgtggtcgt gaaaatttgg 360  
ctgttgcttt tgctccagat ggttcataact ttgcttggtc acaaggacat cgcacagtaa 420  
agcttggccat gtggtcccag tgccttcaga actttctt gcatggcacc aagaatgtta 480  
ccaattcaag cagtttaaga ttgccaagac aaaatagtga tggggcgtcag aaaaataagc 540  
ctcgtgacat attatagact gtggagatat agtctggagt cttgttttgc ggtcatcagt 600  
tccagaaaaa cagagtcgct gtgtaaatat agaatggcat cgcttcagat ttggacaaga 660  
tcagctactt cttgctacag ggttgaacaa tggggcgtatc aaaatatggg atgtatatca 720  
ggaaactcct ccttaacttg gtagatcata ctgaagtggc cagagattta actttgctc 780  
cag 783

<210> 16  
<211> 1122  
<212> DNA  
<213> Homo sapiens

<400> 16  
ctctgtatgt ctgaatgaag ctataacatt tgcctttta ttgcagggtt tcctttggaa 60  
tatggataaa tacaccatga tacggaaact agaaggacat caccatgtt ggttagctt 120  
tgactttctt cctgatggag cattactggc tactgcattt tatgatactc gagtatata 180  
ctgggatcca cataatggag acattctgtt ggaatttggg cacctgtttc ccccacctac 240  
tccaatattt gctggaggag caaatgaccg gtgggtacga tctgtatctt ttagccatga 300  
tggactgcattt gttcaagcc ttgctgatga taaaatggc aggttctggc gaattgttga 360  
ggattatcca gtgcaagttt caccttgag caatggtctt tgctgtgcct tctctactga 420  
tggcagtgtt ttagctgctg ggacacatga cggaaagtgtt tattttggg ccactccacg 480

gcaggtccct agcctgcaac atttatgtcg catgtcaatc cgaagagtga tgcccaccca 540  
agaagttcag gagctgccga ttccttccaa gctttggag tttctctcgatcgtattta 600  
gaagattctg ccttccctag tagtagggac tgacagaata cacttaacac aaacctcaag 660  
ctttactgac ttcaattatc tgttttaaa gacgtagaag atttatttaa tttgatatgt 720  
tcttgactg cattttgatc agttgagctt taaaaatatt atttatagac aatagaagta 780  
tttctgaaca tatcaaataa aaattttttt aaagatctaa ctgtgaaaac atacatacct 840  
gtacatattt agatataagc tgctatatgt tgaatggacc ctttgctt tctgatttt 900  
agttctgaca tgtatataatt gcttcagtag agccacaata tgtatcttg ctgtaaagtg 960  
caagggaaatt taaaattctg ggacactgag ttagatggta aatactgact tacgaaagtt 1020  
gaattgggtg aggcgggcaa atcacctgag gtcagcagtt tgagactagc ctggcaaaca 1080  
tgatgaaacc ctgtctctac taaaaataca aaaaaaaaaaa aa 1122

<210> 17  
<211> 2544  
<212> DNA  
<213> Mus musculus

<220>  
<221> UNSURE  
<222> (320)  
<223> Xaa is unsure

<220>  
<221> UNSURE  
<222> (451)  
<223> Xaa is unsure

<220>  
<221> CDS  
<222> (423)..(2030)

<400> 17  
cggcacgagc cgggctccgt ccggaggaag cgaggctgcg ccggccggccc ggcaggagcg 60  
gaggacggga mgcgcgggcg gtcgcgctcg ccctgtcgct gactgcgctg ccccgccca 120  
tccttgctg gccgcaggtg ccctggatga ggccgcgcg cgtgtcccg ccgctgagtg 180  
tccccccgccc tcgccccggcg cctgcctca agcggccgccc tctccttgcg cgggtccccg 240  
ttttcccccg ggcgcgtcct cctccgggtgg ggcgcctccgc acctcggcgc aggccggcact 300  
gccctcgggc cgggatggat ccgcgggaa gaggaagaca agccggggcg ttgagccct 360  
gcgcacgggtg ccgcgcgcg tagtggagc ttactcgac taggctctcg ctcttctaat 420

ca atg gat aaa gtg ggg aaa atg tgg aac aac tta aaa tac aga tgc	467
Met Asp Lys Val Gly Lys Met Trp Asn Asn Leu Lys Tyr Arg Cys	
1 5 10 15	
cag aat ctc ttc agc cac gag gga gga agc cgt aat gag aac gtg gag	515
Gln Asn Leu Phe Ser His Glu Gly Gly Ser Arg Asn Glu Asn Val Glu	
20 25 30	
atg aac ccc aac aga tgt ccg tct gtc aaa gag aaa agc atc agt ctg	563
Met Asn Pro Asn Arg Cys Pro Ser Val Lys Glu Lys Ser Ile Ser Leu	
35 40 45	
gga gag gca gct ccc cag caa gag agc agt ccc tta aga gaa aat gtt	611
Gly Glu Ala Ala Pro Gln Gln Glu Ser Ser Pro Leu Arg Glu Asn Val	
50 55 60	
gcc tta cag ctg gga ctg agc cct tcc aag acc ttt tcc agg cgg aac	659
Ala Leu Gln Leu Gly Leu Ser Pro Ser Lys Thr Phe Ser Arg Arg Asn	
65 70 75	
caa aac tgt gcc gca gag atc cct caa gtg gtt gaa atc agc atc gag	707
Gln Asn Cys Ala Ala Glu Ile Pro Gln Val Val Glu Ile Ser Ile Glu	
80 85 90 95	
aaa gac agt gac tcg ggt gcc acc cca gga acg agg ctt gca cgg aga	755
Lys Asp Ser Asp Ser Gly Ala Thr Pro Gly Thr Arg Leu Ala Arg Arg	
100 105 110	
gac tcc tac tcg cgg cac gcc ccg tgg gga gga aag aag aaa cat tcc	803
Asp Ser Tyr Ser Arg His Ala Pro Trp Gly Gly Lys Lys His Ser	
115 120 125	
tgt tcc aca aag acc cag agt tca ttg gat acc gag aaa aag ttt ggt	851
Cys Ser Thr Lys Thr Gln Ser Ser Leu Asp Thr Glu Lys Lys Phe Gly	
130 135 140	
aga act cga agc ggc ctt cag agg cga gag cgg cgc tat gga gtc agc	899
Arg Thr Arg Ser Gly Leu Gln Arg Arg Glu Arg Arg Tyr Gly Val Ser	
145 150 155	
tcc atg cag gac atg gac agc gtt tct agc cgc gcg gtc ggg agc cgc	947
Ser Met Gln Asp Met Asp Ser Val Ser Ser Arg Ala Val Gly Ser Arg	
160 165 170 175	
tcc ctg agg cag agg ctc cag gac acg gtg ggt ttg tgt ttt ccc atg	995
Ser Leu Arg Gln Arg Leu Gln Asp Thr Val Gly Leu Cys Phe Pro Met	
180 185 190	
aga act tac agc aag cag tca aag cca ctc ttt tcc aat aaa aga aaa	1043
Arg Thr Tyr Ser Lys Gln Ser Lys Pro Leu Phe Ser Asn Lys Arg Lys	
195 200 205	
ata cat ctt tct gaa tta atg ctg gag aaa tgc cct ttt cct gct ggc	1091
Ile His Leu Ser Glu Leu Met Leu Glu Lys Cys Pro Phe Pro Ala Gly	
210 215 220	

tcg gat tta gca caa aag tgg cat ttg att aaa cag cat acc gcc cct	1139
Ser Asp Leu Ala Gln Lys Trp His Leu Ile Lys Gln His Thr Ala Pro	
225 230 235	
gtg agc cca cac tca aca ttt ttt gat aca ttt gat cca tca ctg gtg	1187
Val Ser Pro His Ser Thr Phe Phe Asp Thr Phe Asp Pro Ser Leu Val	
240 245 250 255	
tct aca gaa gat gaa gaa gat agg ctt cgc gag aga aga cgg ctt agt	1235
Ser Thr Glu Asp Glu Glu Asp Arg Leu Arg Glu Arg Arg Arg Leu Ser	
260 265 270	
atc gaa gaa ggg gtg gat ccc cct ccc aac gca caa ata cac acc ttt	1283
Ile Glu Glu Gly Val Asp Pro Pro Asn Ala Gln Ile His Thr Phe	
275 280 285	
gaa gct act gca cag gtc aac cca ttg tat aag ctg gga cca aag tta	1331
Glu Ala Thr Ala Gln Val Asn Pro Leu Tyr Lys Leu Gly Pro Lys Leu	
290 295 300	
gct cct ggg atg aca gag ata agt gga gat ggt tct gca att cca caa	1379
Ala Pro Gly Met Thr Glu Ile Ser Gly Asp Gly Ser Ala Ile Pro Gln	
305 310 315	
gcs aat tgt gac tca gaa gag gat tca acc acc cta tgt ctg cag tca	1427
Xaa Asn Cys Asp Ser Glu Glu Asp Ser Thr Thr Leu Cys Leu Gln Ser	
320 325 330 335	
cgg agg cag aag cag cgc cag gtg tcc ggg gac agc cac gcg cac gtt	1475
Arg Arg Gln Lys Gln Arg Gln Val Ser Gly Asp Ser His Ala His Val	
340 345 350	
agc aga cag gga gct tgg aaa gtt cat acg cag atc gat tac ata cac	1523
Ser Arg Gln Gly Ala Trp Lys Val His Thr Gln Ile Asp Tyr Ile His	
355 360 365	
tgc ctc gtg cca gat ttg ctt cag atc aca ggg aat ccc tgt tac tgg	1571
Cys Leu Val Pro Asp Leu Leu Gln Ile Thr Gly Asn Pro Cys Tyr Trp	
370 375 380	
ggc gtg atg gac cga tac gag gcc gaa gcc ctt cta gaa ggg aaa ccg	1619
Gly Val Met Asp Arg Tyr Glu Ala Glu Ala Leu Leu Glu Gly Lys Pro	
385 390 395	
gaa ggc acg ttc ttg ctc agg gac tct gca cag gag gac tac ctc ttc	1667
Glu Gly Thr Phe Leu Leu Arg Asp Ser Ala Gln Glu Asp Tyr Leu Phe	
400 405 410 415	
tct gtg agc ttc cgc cgc tac aac agg tct ctg cac gcc cgg atc gag	1715
Ser Val Ser Phe Arg Arg Tyr Asn Arg Ser Leu His Ala Arg Ile Glu	
420 425 430	
cag tgg aac cac aac ttc agc ttc gat gcc cat gac ccc tgc gtg ttt	1763
Gln Trp Asn His Asn Phe Ser Phe Asp Ala His Asp Pro Cys Val Phe	
435 440 445	

cac tcc tcc acw gtc acg ggg ctt ctc gaa cac tat aaa gac ccc agc	1811
His Ser Ser Xaa Val Thr Gly Leu Leu Glu His Tyr Lys Asp Pro Ser	
450 455 460	
tct tgc atg ttt ttt gaa ccg ttg cta acg ata tca ctg aat aga act	1859
Ser Cys Met Phe Phe Glu Pro Leu Leu Thr Ile Ser Leu Asn Arg Thr	
465 470 475	
ttc cct ttc agc ctg cag tat atc tgc cgc gca gtg atc tgc aga tgc	1907
Phe Pro Phe Ser Leu Gln Tyr Ile Cys Arg Ala Val Ile Cys Arg Cys	
480 485 490 495	
act acg tat gat ggg att gac ggg ctc ccg cta ccg tcg atg tta cag	1955
Thr Thr Tyr Asp Gly Ile Asp Gly Leu Pro Leu Pro Ser Met Leu Gln	
500 505 510	
gat ttt tta aaa gag tat cat tat aaa caa aaa gtt agg gtt cgc tgg	2003
Asp Phe Leu Lys Glu Tyr His Tyr Lys Gln Lys Val Arg Val Arg Trp	
515 520 525	
tta gaa cga gar cca gtc aaa gca aag taactcctgt ccccaaaggg	2050
Leu Glu Arg Xaa Pro Val Lys Ala Lys	
530 535	
cactaactaa gtctgctcct cccgtgcac mqaactgcac ccatagrag gcagtcagct	2110
gctaggattt cccacccaga atggagctt agtcattagc ctctgcccta tggggtccgc	2170
tgttcctcag acaaagggtgc ctagggacag caagatggct tgcaggtgtt cggggcgt	2230
tgacaactga gggaggcaac tctggggcat ttgctatgaa gaattctatt tcttaccgaa	2290
gaacaaatta ttaatattgg atgggtattt caatagtgtg actaatgttt gaaattattt	2350
tttctaagaa tttttctata accttcagaa aaagtagtga tgggtgtt tactataaat	2410
caagcttga aagttcaaaa caaacaagtt aaataaaaga ctaccttcct ttttagagaaa	2470
acaaatgcaa gttttcccag ccacaggcat tgcactgt taatgttagc ttgttatcag	2530
ctcctttctc ctcc	2544

<210> 18  
 <211> 536  
 <212> PRT  
 <213> Mus musculus

<220>  
 <221> UNSURE  
 <222> (320)  
 <223> Xaa is unsure

<220>  
 <221> UNSURE  
 <222> (451)

<223> Xaa is unsure

<220>

<221> UNSURE

<222> (531)

<223> Xaa is unsure

<400> 18

Met Asp Lys Val Gly Lys Met Trp Asn Asn Leu Lys Tyr Arg Cys Gln  
1 5 10 15

Asn Leu Phe Ser His Glu Gly Gly Ser Arg Asn Glu Asn Val Glu Met  
20 25 30

Asn Pro Asn Arg Cys Pro Ser Val Lys Glu Lys Ser Ile Ser Leu Gly  
35 40 45

Glu Ala Ala Pro Gln Gln Glu Ser Ser Pro Leu Arg Glu Asn Val Ala  
50 55 60

Leu Gln Leu Gly Leu Ser Pro Ser Lys Thr Phe Ser Arg Arg Asn Gln  
65 70 75 80

Asn Cys Ala Ala Glu Ile Pro Gln Val Val Glu Ile Ser Ile Glu Lys  
85 90 95

Asp Ser Asp Ser Gly Ala Thr Pro Gly Thr Arg Leu Ala Arg Arg Asp  
100 105 110

Ser Tyr Ser Arg His Ala Pro Trp Gly Gly Lys Lys Lys His Ser Cys  
115 120 125

Ser Thr Lys Thr Gln Ser Ser Leu Asp Thr Glu Lys Lys Phe Gly Arg  
130 135 140

Thr Arg Ser Gly Leu Gln Arg Arg Glu Arg Arg Tyr Gly Val Ser Ser  
145 150 155 160

Met Gln Asp Met Asp Ser Val Ser Ser Arg Ala Val Gly Ser Arg Ser  
165 170 175

Leu Arg Gln Arg Leu Gln Asp Thr Val Gly Leu Cys Phe Pro Met Arg  
180 185 190

Thr Tyr Ser Lys Gln Ser Lys Pro Leu Phe Ser Asn Lys Arg Lys Ile  
195 200 205

His Leu Ser Glu Leu Met Leu Glu Lys Cys Pro Phe Pro Ala Gly Ser  
210 215 220

Asp Leu Ala Gln Lys Trp His Leu Ile Lys Gln His Thr Ala Pro Val  
225 230 235 240

Ser Pro His Ser Thr Phe Phe Asp Thr Phe Asp Pro Ser Leu Val Ser  
245 250 255

Thr Glu Asp Glu Glu Asp Arg Leu Arg Glu Arg Arg Arg Leu Ser Ile  
260 265 270

Glu Glu Gly Val Asp Pro Pro Asn Ala Gln Ile His Thr Phe Glu  
275 280 285

Ala Thr Ala Gln Val Asn Pro Leu Tyr Lys Leu Gly Pro Lys Leu Ala  
290 295 300

Pro Gly Met Thr Glu Ile Ser Gly Asp Gly Ser Ala Ile Pro Gln Xaa  
305 310 315 320

Asn Cys Asp Ser Glu Glu Asp Ser Thr Thr Leu Cys Leu Gln Ser Arg  
325 330 335

Arg Gln Lys Gln Arg Gln Val Ser Gly Asp Ser His Ala His Val Ser  
340 345 350

Arg Gln Gly Ala Trp Lys Val His Thr Gln Ile Asp Tyr Ile His Cys  
355 360 365

Leu Val Pro Asp Leu Leu Gln Ile Thr Gly Asn Pro Cys Tyr Trp Gly  
370 375 380

Val Met Asp Arg Tyr Glu Ala Glu Ala Leu Leu Glu Gly Lys Pro Glu  
385 390 395 400

Gly Thr Phe Leu Leu Arg Asp Ser Ala Gln Glu Asp Tyr Leu Phe Ser  
405 410 415

Val Ser Phe Arg Arg Tyr Asn Arg Ser Leu His Ala Arg Ile Glu Gln  
420 425 430

Trp Asn His Asn Phe Ser Phe Asp Ala His Asp Pro Cys Val Phe His  
435 440 445

Ser Ser Xaa Val Thr Gly Leu Leu Glu His Tyr Lys Asp Pro Ser Ser  
450 455 460

Cys Met Phe Phe Glu Pro Leu Leu Thr Ile Ser Leu Asn Arg Thr Phe  
465 470 475 480

Pro Phe Ser Leu Gln Tyr Ile Cys Arg Ala Val Ile Cys Arg Cys Thr  
485 490 495

Thr Tyr Asp Gly Ile Asp Gly Leu Pro Leu Pro Ser Met Leu Gln Asp  
500 505 510

Phe Leu Lys Glu Tyr His Tyr Lys Gln Lys Val Arg Val Arg Trp Leu  
515 520 525

Glu Arg Xaa Pro Val Lys Ala Lys  
530 535

<211> 1221  
<212> DNA  
<213> Homo sapiens

<400> 19  
gattaaacag catacagctc ctgtgagccc acattcaaca tttttgata ctttgatcca 60  
tctttggttt ctacagaaga tgaagaagat aggcttagag agagaaggcg gcttagtatt 120  
gaagaagggg ttgatcccc tcccaatgca caaatacata catttgaagc tactgcacag 180  
gttaatccat tattaaactg ggacaaaaat tagctcctgg aatgactgaa ataagtgggg 240  
acagttctgc aattccacaa gctaattgtg actcggaaga ggatacaacc accctgtgtt 300  
gcagtcacgg aggcagaagc agcgtcagat atctggagac agccataaccc atgttagcag 360  
acagggagct tggaaagtcc acacacagat tgattacata cactgcttcg tgcctgattt 420  
gcttcaaatt acagggaaatc cctgttactg gggagtgtatg gaccgttatg aagcagaagc 480  
ccttctcgaa gggaaacctg aaggcacgtt tttgctcagg gactctgcgc aagaggacta 540  
cttcttctct gtgagcttcc gccgatacaa cagatccctg catgcccgaat 600  
gaatcacaac tttagttcg acgcccatttga cccgtgtta tttcactcct ccactgtaac 660  
gggactttta gaacattata aagatcccag ttcgtgcatg tttttgaac cattgcttac 720  
tatatcacta aataggactt tcccttttag cctgcagtat atctgtcgcg cgtaatctg 780  
caggtgcact acgtatgttgg gaattgtatgg gctccctcta ccctcaatgt tacaggattt 840  
tttaaaagag tatcattata aacaaaaagt tagagttcgc tggtttggaaac gagaaccagt 900  
caaggcaaaat taaactctcc ggtcccaaaa ggggtttaac taggtccgct ttcatgtgca 960  
tcagacagta cacctatagc aagcacacgt agcagtgttggc ttcttttca tacagtatgt 1020  
aagcttagtg ttagtatctg tcagatgcta cctgctgttta cttattcaga taaacatgg 1080  
gcctatttggaa acaatagcgg atagagctac aggtgttcag taagactaca aaaacatttt 1140  
gcctatttggaa ctaacagttt ggttttaat ggctgtggta tttgagtgag gcaactctgg 1200  
ggcattttgtt atgaagaaat g 1221

<210> 20  
<211> 2369  
<212> DNA  
<213> Mus musculus

<220>  
<221> CDS  
<222> (116)..(1327)

<400> 20  
 ggcacgaggc ggtggtggcg gcggcgggca cggccgcggc gggcgggca cggaaatgaag 60  
 gcccacggcc ctgggggctg aggcccccgc cgcctgggc gggccgcgcg tcctc atg 118  
 Met  
 1  
 gag gcc gga gag gag ccg ctg ctg gct gaa ctc aag cct ggg cgc 166  
 Glu Ala Gly Glu Glu Pro Leu Leu Ala Glu Leu Lys Pro Gly Arg  
 5 10 15  
 ccc cac cag ttc gac tgg aag tca agc tgc gag acc tgg agc gtg gcc 214  
 Pro His Gln Phe Asp Trp Lys Ser Ser Cys Glu Thr Trp Ser Val Ala  
 20 25 30  
 ttc tcg cca gac ggt tcc tgg ttc gcc tgg tct caa gga cac tgc gtg 262  
 Phe Ser Pro Asp Gly Ser Trp Phe Ala Trp Ser Gln Gly His Cys Val  
 35 40 45  
 gtc aag ctg gtc ccc tgg ccc tta gag gaa cag ttc atc cct aaa gga 310  
 Val Lys Leu Val Pro Trp Pro Leu Glu Glu Gln Phe Ile Pro Lys Gly  
 50 55 60 65  
 ttc gaa gcc aag agc cga agc agc aag aat gac cca aaa gga cgg ggc 358  
 Phe Glu Ala Lys Ser Arg Ser Ser Lys Asn Asp Pro Lys Gly Arg Gly  
 70 75 80  
 agt ctg aag gag aag acg ctg gac tgt ggc cag att gtg tgg ggg ctg 406  
 Ser Leu Lys Glu Lys Thr Leu Asp Cys Gly Gln Ile Val Trp Gly Leu  
 85 90 95  
 gcc ttc agc ccg tgg ccc tct cca ccc agc agg aaa ctc tgg gca cgt 454  
 Ala Phe Ser Pro Trp Pro Ser Pro Pro Ser Arg Lys Leu Trp Ala Arg  
 100 105 110  
 cac cat ccc cag gcg cct gat gtt tct tgc atc ctg gcc aca ggt 502  
 His His Pro Gln Ala Pro Asp Val Ser Cys Leu Ile Leu Ala Thr Gly  
 115 120 125  
 ctc aac gat ggg cag atc aag att tgg gag gta cag aca ggc ctc ctg 550  
 Leu Asn Asp Gly Gln Ile Lys Ile Trp Glu Val Gln Thr Gly Leu Leu  
 130 135 140 145  
 ctt ctg aat ctt tct ggc cac caa gac gtc gtg aga gat ctg agc ttc 598  
 Leu Leu Asn Leu Ser Gly His Gln Asp Val Val Arg Asp Leu Ser Phe  
 150 155 160  
 acg ccc agc ggc agt ttg att ttg gtc tct gca tcc cgg gat aag aca 646  
 Thr Pro Ser Gly Ser Leu Ile Leu Val Ser Ala Ser Arg Asp Lys Thr  
 165 170 175  
 ctt cga att tgg gac ctg aat aaa cac ggt aag cag atc cag gtg tta 694  
 Leu Arg Ile Trp Asp Leu Asn Lys His Gly Lys Gln Ile Gln Val Leu  
 180 185 190  
 tcc ggc cat ctg cag tgg gtt tac tgc tgc tcc atc tcc cct gac tgt 742

Ser	Gly	His	Leu	Gln	Trp	Val	Tyr	Cys	Cys	Ser	Ile	Ser	Pro	Asp	Cys	
195					200					205						
agc atg ctg tgc tct gca gct ggg gag aag tcg gtc ttt ctg tgg agc															790	
Ser	Met	Leu	Cys	Ser	Ala	Ala	Gly	Glu	Lys	Ser	Val	Phe	Leu	Trp	Ser	
210				215					220					225		
atg cgg tcc tac aca cta atc cgg aaa cta gaa ggc cac caa agc agt															838	
Met	Arg	Ser	Tyr	Thr	Leu	Ile	Arg	Lys	Leu	Glu	Gly	His	Gln	Ser	Ser	
				230				235				240				
gtt gtc tcc tgt gat ttc tct cct gat tca gcc ttg ctt gtc aca gct															886	
Val	Val	Ser	Cys	Asp	Phe	Ser	Pro	Asp	Ser	Ala	Leu	Leu	Val	Thr	Ala	
				245				250				255				
tcg tat gac acc agt gtg att atg tgg gac ccc tac acc ggc gcg agg															934	
Ser	Tyr	Asp	Thr	Ser	Val	Ile	Met	Trp	Asp	Pro	Tyr	Thr	Gly	Ala	Arg	
				260				265			270					
ctg agg tca ctt cat cac aca caa ctt gaa ccc acc atg gat gac agt															982	
Leu	Arg	Ser	Leu	His	His	Thr	Gln	Leu	Glu	Pro	Thr	Met	Asp	Asp	Ser	
				275			280				285					
gac gtc cac atg agc tcc ctg agg tcc gtg tgc ttc tca cct gaa ggc															1030	
Asp	Val	His	Met	Ser	Ser	Leu	Arg	Ser	Val	Cys	Phe	Ser	Pro	Glu	Gly	
				290			295			300			305			
ttg tat ctc gct acg gtg gca gat gac agg ctg ctc agg atc tgg gct															1078	
Leu	Tyr	Leu	Ala	Thr	Val	Ala	Asp	Asp	Arg	Leu	Leu	Arg	Ile	Trp	Ala	
				310				315				320				
ctg gaa ctg aag gct ccg gtt gcc ttt gct ccg atg acc aat ggt ctt															1126	
Leu	Glu	Leu	Lys	Ala	Pro	Val	Ala	Phe	Ala	Pro	Met	Thr	Asn	Gly	Leu	
				325			330				335					
tgc tgc acg ttc ttc cca cac ggt gga att att gcc aca ggg acg aga															1174	
Cys	Cys	Thr	Phe	Phe	Pro	His	Gly	Gly	Ile	Ile	Ala	Thr	Gly	Thr	Arg	
				340			345				350					
gat ggc cat gtc cag ttc tgg aca gct ccc cgg gtc ctg tcc tca ctg															1222	
Asp	Gly	His	Val	Gln	Phe	Trp	Thr	Ala	Pro	Arg	Val	Leu	Ser	Ser	Leu	
				355			360				365					
aag cac tta tgc agg aaa gcc ctc cga agt ttc ctg aca acg tat caa															1270	
Lys	His	Leu	Cys	Arg	Lys	Ala	Leu	Arg	Ser	Phe	Leu	Thr	Thr	Tyr	Gln	
				370			375			380			385			
gtc cta gca ctg cca atc ccc aag aag atg aaa gag ttc ctc aca tac															1318	
Val	Leu	Ala	Leu	Pro	Ile	Pro	Lys	Lys	Met	Lys	Glu	Phe	Leu	Thr	Tyr	
				390				395				400				
agg act ttc tagcagtgcc ggctccccc cctcctgcag cagcagcagt															1367	
Arg	Thr	Phe														
acaagggact ggcttaggatg gagtcaggca gctcacactg gaccagtgtg gacccctt 1427																

cctccatgg catgtgcaag taggtctgcg tgaccccact tctgtggc cggccttacc 1487  
tcgtcttcat ccgtggtgag cagccttcgt cagtctagtt gtgttgaagc caagtgcagt 1547  
tgtggatgtt gctggggtaa taaaggcaag cgggctccag agcctcttg gtggcggcca 1607  
agccacactc ccttaactgg gaagtacctg ccacgtaggg catttctgct gcctatttcc 1667  
agccagcggc tgcattgttt gaagttccctc cgttggc agaagaactc tgggtttgg 1727  
ttccctgctc agctgcgcgt ggactggct gagctccctca ccatacacta gtgccggctt 1787  
ttgtttctg taaacagtgg ttgcattgtt agagaagtaa caagcgagta ttcatatcat 1847  
acgaggaggc gttcctcggt gcatgacggt cagatggcca tttatcagca tatttatttg 1907  
tattttctca gcacatagta aggtacaact gtgtttctc aattgtctcg aaaaaacaga 1967  
gttcttaagt ggcccagttg tggagccaag tctaagtctg gtggagtcag tgctgacatc 2027  
actggcttgt gctgtctgtc acatgtgtt gtctctgtc ctgcacatc tggatgtac 2087  
cctccagttc aactgcccua aacagacagc cccttccaag caccgttctt tgacagcggt 2147  
agcagctacc tattcaagac gcctcacaca aaatctgcct tagaaagtta atatattta 2207  
aattattta aaagaaaactc aacatcttat tctttggcct ttcttaattt atgctttatg 2267  
gaggcagtgt taacattgta cagtgtatgc atagaggagt ctccctatt tgaagaacaa 2327  
tgcaaaatga ggcttcattt gaaggaaaa aaaaaaaaaa aa 2369

<210> 21  
<211> 404  
<212> PRT  
<213> Mus musculus

<400> 21  
Met Glu Ala Gly Glu Glu Pro Leu Leu Leu Ala Glu Leu Lys Pro Gly  
1 5 10 15  
Arg Pro His Gln Phe Asp Trp Lys Ser Ser Cys Glu Thr Trp Ser Val  
20 25 30  
Ala Phe Ser Pro Asp Gly Ser Trp Phe Ala Trp Ser Gln Gly His Cys  
35 40 45  
Val Val Lys Leu Val Pro Trp Pro Leu Glu Glu Gln Phe Ile Pro Lys  
50 55 60  
Gly Phe Glu Ala Lys Ser Arg Ser Ser Lys Asn Asp Pro Lys Gly Arg  
65 70 75 80  
Gly Ser Leu Lys Glu Lys Thr Leu Asp Cys Gly Gln Ile Val Trp Gly  
85 90 95

Leu Ala Phe Ser Pro Trp Pro Ser Pro Pro Ser Arg Lys Leu Trp Ala  
 100 105 110  
 Arg His His Pro Gln Ala Pro Asp Val Ser Cys Leu Ile Leu Ala Thr  
 115 120 125  
 Gly Leu Asn Asp Gly Gln Ile Lys Ile Trp Glu Val Gln Thr Gly Leu  
 130 135 140  
 Leu Leu Leu Asn Leu Ser Gly His Gln Asp Val Val Arg Asp Leu Ser  
 145 150 155 160  
 Phe Thr Pro Ser Gly Ser Leu Ile Leu Val Ser Ala Ser Arg Asp Lys  
 165 170 175  
 Thr Leu Arg Ile Trp Asp Leu Asn Lys His Gly Lys Gln Ile Gln Val  
 180 185 190  
 Leu Ser Gly His Leu Gln Trp Val Tyr Cys Cys Ser Ile Ser Pro Asp  
 195 200 205  
 Cys Ser Met Leu Cys Ser Ala Ala Gly Glu Lys Ser Val Phe Leu Trp  
 210 215 220  
 Ser Met Arg Ser Tyr Thr Leu Ile Arg Lys Leu Glu Gly His Gln Ser  
 225 230 235 240  
 Ser Val Val Ser Cys Asp Phe Ser Pro Asp Ser Ala Leu Leu Val Thr  
 245 250 255  
 Ala Ser Tyr Asp Thr Ser Val Ile Met Trp Asp Pro Tyr Thr Gly Ala  
 260 265 270  
 Arg Leu Arg Ser Leu His His Thr Gln Leu Glu Pro Thr Met Asp Asp  
 275 280 285  
 Ser Asp Val His Met Ser Ser Leu Arg Ser Val Cys Phe Ser Pro Glu  
 290 295 300  
 Gly Leu Tyr Leu Ala Thr Val Ala Asp Asp Arg Leu Leu Arg Ile Trp  
 305 310 315 320  
 Ala Leu Glu Leu Lys Ala Pro Val Ala Phe Ala Pro Met Thr Asn Gly  
 325 330 335  
 Leu Cys Cys Thr Phe Pro His Gly Gly Ile Ile Ala Thr Gly Thr  
 340 345 350  
 Arg Asp Gly His Val Gln Phe Trp Thr Ala Pro Arg Val Leu Ser Ser  
 355 360 365  
 Leu Lys His Leu Cys Arg Lys Ala Leu Arg Ser Phe Leu Thr Thr Tyr  
 370 375 380  
 Gln Val Leu Ala Leu Pro Ile Pro Lys Lys Met Lys Glu Phe Leu Thr  
 385 390 395 400

Tyr Arg Thr Phe

<210> 22  
<211> 1246  
<212> DNA  
<213> Homo sapiens

<400> 22  
gacactgcat cgtcaaactg atcccctggc cggtggagga gcagttcatc cctaaagggt 60  
ttgaagccaa aagccgaagt agcaaaaatg agacgaaagg gcggggcagc ccaaaagaga 120  
agacgctgga ctgtggtcag attgtctggg ggctggcctt cagcctgtgc tttccccacc 180  
cagcaggaag ctctgggcac gccaccaccc ccaagtgccc gatgtcttgc gcctggttct 240  
tgctacggga ctcaacgatg ggcagatcaa gatctggag gtgcagacag ggctcctgct 300  
tttgaatctt tccggccacc aagatgtcgt gagagatctg agcttcacac ccagtggcag 360  
tttgattttg gtctccgcgt cacggataa gactcttcgc atctggacc tgaataaaca 420  
cggtaaacag attcaagtgt tatcgggcca cctgcagtgg gtttactgct gttccatctc 480  
cccagactgc agcatgctgt gctctgcagc tggagagaag tcggtcttgc tatggagcat 540  
gaggtcctac acgttaattc ggaagctaga gggccatcaa agcagtgttg tctcttgc 600  
cttctcccc gactctgccc tgcttgcac ggcttcttac gataccatg tgattatgtg 660  
ggaccctac accggcgaaa ggctgaggc actccaccac acccaggttgc accccgcatt 720  
ggatgacagt gacgtccaca ttagctcaact gagatctgtg tgcttctctc cagaaggctt 780  
gtaccttgcc acgggtggcag atgacagact cctcaggatc tggccctgg aactgaaaac 840  
tcccattgca tttgctccta tgaccaatgg gctttgctgg cacatttttt ccacatggtg 900  
gagtcatgtc cacagggaca agagatggcc acgtccagtt ctggacagct cctagggtcc 960  
tgtcctcaact gaagcactta tgccggaaag cccttcgaag tttcctaaca acttaccaag 1020  
tccttagcaact gccaatcccc aagaaaaatga aagagtttct cacatacagg acttttaag 1080  
caacaccaca tcttgcgtt ctttgcgtca gggtaaatcg tcctgtcaaa gggagttgct 1140  
ggaataatgg gccaaacatc tggtcttgca ttgaaatagc atttcttgg gattgtgaat 1200  
agaatgttagc aaaaccagat tccagtgatc tagtcatgga ttttcc 1246

<210> 23  
<211> 422  
<212> DNA  
<213> Homo sapiens

<400> 23  
accatggttc caagtccctc cccctgtggt caagttggcc gaatgttggg cccaaatggcc 60  
tttccctctt tgggcctccc cttctgaccc gcaggacagt tttccggagc ccattttggta 120  
tgaggttatta attagcctta actaaattac aggggactca gaggccgtgc tcctgaccga 180  
tccagacact atttttttt tttttttta acaatggtgt gcatgtgcag gaaatgacaa 240  
atttgtatgt cagattatac aaggatgtat tcttaaaccg catgactatt cagatggcta 300  
ctgagttatc agtggccatt tattagcatc atatttattt gtatttctc aacagatgtt 360  
aaggtacaac tgtgttttc tcgattatct aaaaaccata gtacttaat tgaaaaaaaaa 420  
aa 422

<210> 24  
<211> 2019  
<212> DNA  
<213> *Mus musculus*

<220>  
<221> UNSURE  
<222> (1981)  
<223> N is unsure

<220>  
<221> UNSURE  
<222> (1992)  
<223> N is unsure

<220>  
<221> UNSURE  
<222> (2000)  
<223> N is unsure

<400> 24  
ggcacgaggg ggggtcaggg cggaggctga ggaccaagta ggcattggcg aggccggac 60  
cgcccccgat ggacgggccc gcccgggacc cgcaggctt aatctgaagg agtggctgag 120  
ggagcagttc tgtgaccatc cactggagca ctgtgacgat acaagactcc atgatgcagc 180  
ctatgttaggg gacctccaga ccctcaggaa cctactgcaa gaggagagct accggagccg 240  
catcaatgag aagtctgtct ggtgctgcgg ctggcttccc tgcacaccac tgaggatcgc 300  
agccactgca ggcattggga actgtgtgga cttcctcata cgcaaagggg ccgaggtgga 360  
cctgggtggat gtcaaggggc agactgcct gtatgtggct gtagtgaacg ggcacttgaa 420  
gagcaactgag atcctttgg aagctggtgc tgatcccaac ggcagccggc accaccgcag 480  
cactcctgtt taccatgcct ytcgtgtggg tagggacgac atcctgaagg ctcttatcag 540

gtatgggca gatgttcatg tcaaccatca tctgaattct gacacccggc ccccttttc 600  
acggcggcta acctccttgg tggctgtcc tctatacatc agtgcgcct accataacct 660  
tcagtgcttc aggctgtctc tgcaggctgg ggcaaattct gacttcaatt gcaatggccc 720  
tgtcaacacc caggagttct acaggggatc ccctgggtgt gtcatggatg ctgtcctgctg 780  
ccatggctgt gaagcagcct tcgtgagtct gttggtagag tttggagcca acctgaacct 840  
ggtaagtgg gaatccctgg gcccagaggc aagaggcaga agaaagatgg atcctgagggc 900  
cttgcaggc tcgtgagtctt ccagaagtat tcccaggacc ttgtgagtt tgtgcgggt 960  
ggctgtgaga agagctctt gcaaataccg actgcatctg gttccctcgc tgccgctgcc 1020  
agacccata aagaagttt tgcttatga gtagcatca catgcagtgc tgactgcaat 1080  
gtggaagccg atcacctgca gtgaaaactg acacagactc tggcatcctg ggaaccatgg 1140  
cctgtgtgc cagcttgc tcgtgctgtc agtgaagaaa aaacggctgt gttctttgg 1200  
actgtgattc tatctcaggt gcttggcca tcgaacgctc cttgagtcat tgtcaactga 1260  
gaggcacata caaacttaat tttgttcctc ttcagtctct ctgttttggaa ttcttcctgg 1320  
caatgtgtgc agcatggct gagcctggtg attgccttag tggggaaaggc tttttctcc 1380  
aggctatgca tctattttag ttcctacttt gcaatttatt gttttttaa ggcttgatata 1440  
caaaacagaa agaggtttgt taagaaaaga tatagggaga aaggaattcc gttccgtgc 1500  
acttgctagc ctgctttcct tgcctgggtt tgcgtgtcta tgctgcctgg tgcacatccc 1560  
ttctcttgc tgccactgtt ctattttggg agttgtctc cgtctaagat ggcttctggg 1620  
gttctatctt attgcacaga ggtcccagaa cagtgttcat agggcaccat ctgctgtgcc 1680  
aagggttttc tgatgtctta ccctggggat cttcagacag tggttacctt taggagaccc 1740  
acctggaact aaccattaag tgactgccc cattcagatc agggaccatc ttaatagtac 1800  
tcactgccag tcctcacaag agaagatgac acgggtgctc tcttcagaca ctcccataca 1860  
ggaagttgaa aatgtctt gtcacccctgg ttgttccctg gctacaactt cttgggttgc 1920  
cactaaracc agratatcct agtttttgg gttgactgtt ccctccccac tttccttgaa 1980  
ncccaatgcc cttttgtktn gttgttcc ctaaaaktt

2019

<210> 25  
<211> 350  
<212> PRT  
<213> *Mus musculus*

<220>

<221> UNSURE

<222> (167)

<223> Xaa is unsure

<400> 25

Ala Arg Gly Gly Val Arg Ala Glu Ala Glu Asp Gln Val Gly Met Ala  
1 5 10 15

Glu Gly Gly Thr Gly Pro Asp Gly Arg Ala Gly Pro Gly Pro Ala Gly  
20 25 30

Pro Asn Leu Lys Glu Trp Leu Arg Glu Gln Phe Cys Asp His Pro Leu  
35 40 45

Glu His Cys Asp Asp Thr Arg Leu His Asp Ala Ala Tyr Val Gly Asp  
50 55 60

Leu Gln Thr Leu Arg Asn Leu Leu Gln Glu Glu Ser Tyr Arg Ser Arg  
65 70 75 80

Ile Asn Glu Lys Ser Val Trp Cys Cys Gly Trp Leu Pro Cys Thr Pro  
85 90 95

Leu Arg Ile Ala Ala Thr Ala Gly His Gly Asn Cys Val Asp Phe Leu  
100 105 110

Ile Arg Lys Gly Ala Glu Val Asp Leu Val Asp Val Lys Gly Gln Thr  
115 120 125

Ala Leu Tyr Val Ala Val Val Asn Gly His Leu Glu Ser Thr Glu Ile  
130 135 140

Leu Leu Glu Ala Gly Ala Asp Pro Asn Gly Ser Arg His His Arg Ser  
145 150 155 160

Thr Pro Val Tyr His Ala Xaa Arg Val Gly Arg Asp Asp Ile Leu Lys  
165 170 175

Ala Leu Ile Arg Tyr Gly Ala Asp Val Asp Val Asn His His Leu Asn  
180 185 190

Ser Asp Thr Arg Pro Pro Phe Ser Arg Arg Leu Thr Ser Leu Val Val  
195 200 205

Cys Pro Leu Tyr Ile Ser Ala Ala Tyr His Asn Leu Gln Cys Phe Arg  
210 215 220

Leu Leu Leu Gln Ala Gly Ala Asn Pro Asp Phe Asn Cys Asn Gly Pro  
225 230 235 240

Val Asn Thr Gln Glu Phe Tyr Arg Gly Ser Pro Gly Cys Val Met Asp  
245 250 255

Ala Val Leu Arg His Gly Cys Glu Ala Ala Phe Val Ser Leu Leu Val  
260 265 270

Glu Phe Gly Ala Asn Leu Asn Leu Val Lys Trp Glu Ser Leu Gly Pro  
275 280 285

Glu Ala Arg Gly Arg Arg Lys Met Asp Pro Glu Ala Leu Gln Val Phe  
290 295 300

Lys Glu Ala Arg Ser Ile Pro Arg Thr Leu Leu Ser Leu Cys Arg Val  
305 310 315 320

Ala Val Arg Arg Ala Leu Gly Lys Tyr Arg Leu His Leu Val Pro Ser  
325 330 335

Leu Pro Leu Pro Asp Pro Ile Lys Lys Phe Leu Leu Tyr Glu  
340 345 350

<210> 26

<211> 419

<212> DNA

<213> Homo sapiens

<400> 26

gcatccatgg cggagggcgg cagcacgacg ggccggcagg gcccggctcc gcaggcgta 60  
atctgaagga gtggctgagg gagcaatttt gtgatcatcc gctggagcac tgtgaggaca 120  
cgaggctcca tcatgcagct tacgtcgaaa acctccagac cctcaggagc ctattgcaag 180  
aggagagcta ccggagccgc atcaacgaga agtctgtctg gtgctgtggc tggctcccct 240  
gcacaccgtt gcgaatcgcg gccactgcag gccatgggag ctgtgtggac ttcctcatcc 300  
ggaagggggc cgaggtggat ctgggtggacg taaaaggaca gacggccctg tatgtggctg 360  
tggtaacgg gcacccatag agtacccaga tccttctcga agctggcgcg gaccccaac 419

<210> 27

<211> 595

<212> DNA

<213> Homo sapiens

<400> 27

gaggaagaag aaaagtggac cctgaggcct tgcaggtctt taaaaggagcc agaagtgttc 60  
ccagaacctt gctgtgtctg tgccgtgtgg ctgtgagaag agctcttggc aaaaccggct 120  
tcatctgatt cttcgctgc ctctgccaga ccccataaaag aagtttctac tccatgagta 180  
gactccaagt gctgcgggtt attccagtga gggagaaaagt gatctgcagg gaggtggaca 240  
ccgagccctg agtgctgtgc tgctgctggc ctcctgatgg ctgttgctgc agaagatgtc 300  
ctcgttagact gtcattgctc ctcaggtgcc tggccgcgtg aacagtccctt gggtcattgt 360  
cagctgagag gcttatacta aagttattat tgttttccc aagttctctg ttctggattt 420  
tcagttgcat attaatgtaa cggccatgg ggtatgtaca tgtagggct gaggtggag 480

gcctactaat ttcctgttagg gaagactccc agcaacttctg gaactgtgct tctcttatt 540  
 tttctacttc tcaattttagat ggttcgatta aagccttcta gtatctcaat gaaaa 595

<210> 28  
 <211> 896  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (4)..(396)

<220>  
 <221> UNSURE  
 <222> (551)  
 <223> n is unsure

<220>  
 <221> UNSURE  
 <222> (651)  
 <223> n is unsure

<400> 28

ctg atg tcc gca att ctg aag gtt gga cac cac tgc tgg ctg cct gtg	48
Met Ser Ala Ile Leu Lys Val Gly His His Cys Trp Leu Pro Val	
1 5 10 15	

aca tcc gct gtc aat ccc caa agg atg ctg agg cca cca cca acc gct	96
Thr Ser Ala Val Asn Pro Gln Arg Met Leu Arg Pro Pro Pro Thr Ala	
20 25 30	

gtt ttc aac tgt gcc gct tgc tgc tgt ctg tgg ggg cag atg ctg atg	144
Val Phe Asn Cys Ala Ala Cys Cys Leu Trp Gly Gln Met Leu Met	
35 40 45	

aat aca tac cgt gta gtt cag ctt cct gag gag gcc aag ggc ttg gtg	192
Asn Thr Tyr Arg Val Val Gln Leu Pro Glu Glu Ala Lys Gly Leu Val	
50 55 60	

cca cca gag att cta cag aag tac cat gga ttc tac tct tcc ctc ttt	240
Pro Pro Glu Ile Leu Gln Lys Tyr His Gly Phe Tyr Ser Ser Leu Phe	
65 70 75	

gcc ttg gtg agg cag ccc agg tcg ctg cag cat ctc tgc cgt tgt gcg	288
Ala Leu Val Arg Gln Pro Arg Ser Leu Gln His Leu Cys Arg Cys Ala	
80 85 90 95	

ctc cgc agt cac ctg gag ggc tgt ctg ccc cat gca cta ccg cgc ctt	336
Leu Arg Ser His Leu Glu Gly Cys Leu Pro His Ala Leu Pro Arg Leu	
100 105 110	

ccc ctg cca ccg cgc atg ctc cgc ttt ctg cag ctg gac ttt gag gat	384
Pro Leu Pro Pro Arg Met Leu Arg Phe Leu Gln Leu Asp Phe Glu Asp	
115 120 125	

ctg ctc tac taggcttgct gccctgtgaa caaaggcagac cccaccccca 433  
Leu Leu Tyr  
130

ccccaaaggc atctctcagc aatgaatgat gcaaggcggt ctgtcttcaa gtcaggagtg 493  
gacgccttga tccacacttg agagaagagg ccagatcagc accyggctgg tagtgatngc 553  
agagggcacc tgtgcagatc tgtgtgcgca ctggaaatct ctaggctgaa ggcyyagagca 613  
aatggtgcar gtgttagtcc ttgggangag agacagangg tgagaaagca agacagaggt 673  
gagagtgcac atgtcaagtg gtagattgcc taaaaagaaa gctaaaaaaaaa gaaaaagatt 733  
cgggcgaact tcttagggg taatgctgca gcgtgtaaa ctgactgacc agcgtccata 793  
tcttgacc cttccgggt gaaaaagccc cttcatcctc cagcgctccc caagggtgct 853  
tagcaatacc gggtgcttt ctgcccggaaa gtgagttacc aaa 896

<210> 29  
<211> 130  
<212> PRT  
<213> Mus musculus

<400> 29  
Met Ser Ala Ile Leu Lys Val Gly His His Cys Trp Leu Pro Val Thr  
1 5 10 15  
Ser Ala Val Asn Pro Gln Arg Met Leu Arg Pro Pro Pro Thr Ala Val  
20 25 30  
Phe Asn Cys Ala Ala Cys Cys Cys Leu Trp Gly Gln Met Leu Met Asn  
35 40 45  
Thr Tyr Arg Val Val Gln Leu Pro Glu Glu Ala Lys Gly Leu Val Pro  
50 55 60  
Pro Glu Ile Leu Gln Lys Tyr His Gly Phe Tyr Ser Ser Leu Phe Ala  
65 70 75 80  
Leu Val Arg Gln Pro Arg Ser Leu Gln His Leu Cys Arg Cys Ala Leu  
85 90 95  
Arg Ser His Leu Glu Gly Cys Leu Pro His Ala Leu Pro Arg Leu Pro  
100 105 110  
Leu Pro Pro Arg Met Leu Arg Phe Leu Gln Leu Asp Phe Glu Asp Leu  
115 120 125  
Leu Tyr  
130

<210> 30

<211> 436  
<212> DNA  
<213> Mus musculus

<400> 30  
gtggggcgt catcatgacc tcctctaggg ctctgcaaca tgactcctgt ggtgcaaatc 60  
aacaattgt tcactgatga atccacaagg atctctggc ctacaaccag gtcctggtcc 120  
acatgactgt cgtcttcgga gaaggcacca ctcgcccccg gcaggtacgg ctgacacac 180  
catggagaa gacgtatcca ggcagcagct gcgccgcct tcaagaggc acatccgtc 240  
atctaaaggc acggtgtact gaaggtagtc ctgagacatg agtccgatta ctacaggcac 300  
gtgttcctcc aggtggaggc tcaggtcccc gggtagctg gggctgcagc gggactcagg 360  
gcgcggctct ggctgcaggt ctcgcagctc cctggctgt agctccgcga gatccttgcg 420  
cacacogttg actggt 436

<210> 31  
<211> 2180  
<212> DNA  
<213> Homo sapiens

<400> 31  
ttaatagtagc ctacatagta gaaaattata actccacttt aaaacaatgt tttctttcta 60  
ttcaaatcaa tttaaaactt ttataaaaca ttaatgttgc aagagaatcc agtccattta 120  
tggaaat tagtgcacatca agttcaccca agaaaatgtt gactaagcta aagaaatcac 180  
agataaaaaca ttttaccaaa aggataggtt acacacaaaa aaatgctatc acaggaagct 240  
atgatcatct aatatttctt taataataat tctagttcca taggtttca tgttatgcca 300  
atttgtaccc gagtttaatt acagaaaagg caacaatttc taaattggtg gtatacattt 360  
ctttacaatt tttaatgtt aggccattta ttaaaataga caaactagaa gatgaaaacg 420  
aaggcaacag aaaaattcaa ctttcacaa ccaaaagaat tagcacaacc ttagaaataa 480  
tttagaaaaaa agtgttgtt aaagatatgt tgcagatctc cgttccattt cccaaagatta 540  
tgtcaattca cgattctaaa taaatcttt taaagtaaga gataaaaac tcattttcag 600  
tgtatatgtt aattccgtgg ttttatcaca caggtatgtt tattcaacac tgctttggaa 660  
atggaccatt taaaaggaca tggcaatttc cattctgtt agttcattt aacctttact 720  
taggggttga ttaccacatg aaatgtgctt ttaatgcata aaaatcacag tggatttagcc 780  
agcaaaaaggc actgggcggg gggggcattt aggagaattt gataattcac attgtgatta 840

ttctgcacat tgatgaaaca taattcacac ctctaaaacc tcaagacttc cctttttaa 900  
agaaccaaaa taaacccaag acacccgt gacacttccc cacccctaaa caaactgatg 960  
actctttac acataaaaact gaaatagtta tggcagcaaa agatttgat ggcaatgaaa 1020  
gttgtaaac tgtatcca tctctgttc ttattccaa agtcaagat gcagggtct 1080  
caatcttca gtagtgctc tcctgtaaat aatccttcat tttgttggc aaaggcagtt 1140  
tctgaattaa gtctattctg gtatactgac gtataacaaa acgacacagg tactgcaacg 1200  
agcgcaccta tgaaccccg aacactgggtt ggcaagttct gacggaagtg cagattccag 1260  
gcagcgagac cttgaataac aaaaagctcc catttcaga gtcctgatt gaatgctcca 1320  
attagatcaa ctatggacgt atgtccttcc acatggctg ttcataaaag ctaaacctac 1380  
catttgagtg ctcaattcta gtgtgaagtg tttaccatg ggagcgaaag tcacagctta 1440  
aaaggtaacg gtcgtcagaa ctgtccgaa caagaaaaga accatctggc acgtttgcta 1500  
gcttcccttc tgccctccaa cgtgtgattt gtccttccatc ccatccttgc tttgcaagtt 1560  
tttcagctc ctctgttaagg cttgtcacaa ccatgggacc actacttgc actgagtc 1620  
aaactcttgc aaccccagga gcagagttcg gatcaaaatt caaatgacag cgcataactt 1680  
tcagccacgt ggggcttct gtccagttag tccactgaaa gttcccttt gggatttgg 1740  
ttattcctgc attggagtaa ccaatggtga agattggagg gacatccatc gtgaacccgc 1800  
tctccgggt tctgcaacat gactccgtg gtgccaatca acaagccatt caccggactg 1860  
atccacgaag atctctgggg cgacaactag gtcctggct acctgactct catcctcggg 1920  
gaaagcgcgc cctcccactt gaggaggaac cgcagagact tccatggag aagagctg 1980  
cagacaatag ctccgtgatc cttccaaagg atacatcccc tcatctaaag gcacagtata 2040  
ctgaatgtag tcctgaggca taagtccaaat aacgacaggg acatgttcat ccaggtgaag 2100  
atgcaggtct ccattatgag aagccgagct cttcagtgaa ttggcttgc cctggcacgt 2160  
ggtctcagac tggaggtcgt 2180

<210> 32  
<211> 2649  
<212> DNA  
<213> Mus musculus

<400> 32  
ggcacgagggc tgtgtccagc acacagagag ggcccgccca tctgcttgg ttcagagccc 60  
tgtgtctgtc tgtcacttag actcttcctc ccggctcgca gctcaccctc catcctcctt 120

actggctcca gcatgactcg cttctcttat gcagagtaact ttgctctgtt tcactctggc 180  
tctgcacctt ccaggtcccc ttcgtctccc gagaaccac cggcccgcc acccctgggt 240  
ctgttccaag gggtcatgca gaagtatagc agcaacctgt tcaagacctc ccagatggcg 300  
gctatggacc ccgtgctgaa ggccatcaag gaaggggatg aagaggcctt gaagatcatg 360  
atccaggatg ggaagaatct tgcagagccc aacaaggagg gctggctgcc gctccacgag 420  
gctgcctact atggccagct gggctgcctg aaagtccctgc agcaagccta cccagggacc 480  
attgaccaac gcacactgca ggaagagaca gcattatacc tggccacatg cagagaacac 540  
ctggattgcc tcctgtcgct gctccaggcg gggcagagc ctgacatctc taacaaatcc 600  
agggagactc cacttacaa agcctgtgag cgcaagaacg cggaggcggt gaggatattg 660  
gtgcgataca acgcagacgc caaccaccgc tgtaacaggg gctggaccgc actgcacgag 720  
tctgtctccc gcaatgacct ggaggtcatg gagatcctag tgagtggcgg ggccaagggt 780  
gaggccaaga atgtctacag catcaccctt ttgtttgtgg ctgcccagag tggcagctg 840  
gaggccctga gttcctggc caagcatggt gcagacatca acacgcaggc cagtgacagt 900  
gcatcagccc tctacgaggc cagcaagaat gagcatgaag acgtggtaga gtttcttctc 960  
tctcaggcgcc cgatgctaa caaagccaac aaggacggcc tgctccccct gcatgttgcc 1020  
tccaagaagg gcaactatacg aatagtgcag atgctgctgc ctgtgaccag ccgcacgcgc 1080  
gtgcgcccgt a gggcatcag cccgctgcac ctgcggccg agcacaacca cgcgcgggt 1140  
ctggaggcgcc tgctggccgc ggccttcgac gtgcacgcac ctctggctcc cgcgcgcgc 1200  
cgccctctacg aggaccgcgc cagttctgcg ctctacttcg ctgtggtaa caacaatgt 1260  
tacgccaccgc agctgttgct gctggccgc gggaccacca accgcgatgt catcagccct 1320  
ctgctcgtaa ccatccgcac cggctgcctg cgcaccatgc agctgctgtt ggaccatggc 1380  
gccaacatcg acgcctacat cgcactcac cccaccgcct ttccagccac catcatgttt 1440  
gccatgaagt gcctgtcggtt actcaagttc cttatggacc tcggctgcga tggcgagccc 1500  
tgcttctccct gcctgtacgg caacggccgc caccaccgc cccgcgaccc ggcgcgttcc 1560  
acgacgcacc cgtggacgc aaggcaccta gcgtggtgca gttctgtgag ttccctgtcg 1620  
ccccggaaatg gagccgctgg gggggaccacca tcatcgatgt cctccctggac tatgtggca 1680  
acgtgcagct gtgctcccg ctgaaggagc acatcgacacg ctttgaggac tggctgtca 1740  
tcaaggagaa ggcagaacctt ccgagacctc tggctcacct ctggccggctg cgggttcgga 1800

aggccatagg aaaataccgg ataaaactcc tggacacact gccgcttccc ggcaggctaa 1860  
tcagatactt gaaatatgag aatacacagt aaccagcctg gagaggagat gtggccttca 1920  
gactgttcc gggacgcccc aggtggcctg catccaggac cccctgggtt cagaacaggt 1980  
gtgaccttgc tggttctttc ctggagctc acccaaagtg agaacctgat gtggggagtg 2040  
gacgtggaac ctctgcttcc acactgtcag cgatgcag acccgctctg cttctggcca 2100  
tagccagaga ccttcaacct gggccaggg gagagcttgt ctggcaagg tggcccaggc 2160  
aggaatcctg gccttaagct ggagaacttg taggaatccc tcactggacc ctcagcttcc 2220  
aggctgcgag ggagacgccc agcccaagta ttttatttcc gtgacacaat aacgttgtat 2280  
cagaaaaaaa aaaaaacatg ggccgagctt attccttagt aggtattta cttgcattgcg 2340  
cgcttaaagc tactggaaac atgcgttcca ctatgcttga gaatcccctt gcactggtaa 2400  
acgagagccg acgtgcttca aggttggatt tttgggtgcc ccttggcgt tccgggggtt 2460  
tgtccgacgt aattgacccc gtgtttgtc actttcgagt gttccgacta ttgggggct 2520  
tttgggttgc cccaaaattt tgggtgggtt gcggacgcca cgagaagtgg ttcatggcg 2580  
ataatcatta ctggagaatg tagagcggcg gtttacgaa taaatatttt ttaagccgcc 2640  
ttccccaaaa 2649

<210> 33  
<211> 495  
<212> DNA  
<213> Homo sapiens  
  
<400> 33  
cctcctgaga gttcgccggc ccggggccaa tgggttgttc caagggtca tgcagaaata 60  
cagcagcagc ttgttcaaga cctccagct ggccctgcg gacccttga taaaggccat 120  
caaggatgcg atgaagagggc cttgaagacc atgatcaagg aagggaaagaa tctcgagag 180  
cccaacaagg agggctggct gccgctgcac gaggccgcat actatggcca ggtgggctgc 240  
ctgaaagtcc tgcagcgagc gtacccaggg accatcgacc agcgcaccct gcaggaggaa 300  
acagccgtt acttggcaac gtgcaggggc cacctggact gtctcctgtc actgctccaa 360  
gcagggggcag agcgggacat ctccaacaaa tcccagagaga accgctctac aaagcctgtg 420  
agcgcaagaa cgccgaagcc gtgaagattc ttgggtgcagc acaacgcaga caccaacaac 480  
gctgcaaccg ggctg 495

<210> 34  
<211> 709  
<212> DNA  
<213> Homo sapiens

<400> 34  
gtgcagctct gctcgccgct gaaggaacac atcgacagct ttgaggactg ggccgtcatc 60  
aaggagaagg cagaacctcc aagacctctg gtcacccctt gcccactgcg gttcgaaag 120  
gccattggga aataccgtat aaaactccta gacaccttgc cgctcccagg caggctgatt 180  
agataacctga aatacgagaa caccagtaa ctggggccac gggagagag gagtagcccc 240  
tcagactctt cttaactaagt ctcaggacgt cggtgttccc aactccaagg ggacctggtg 300  
acagacgagg ctgcaggctg ctccttc agcctggaca gctaccagga tctcaactggg 360  
tctcagggcc cagagcttg gccagagcag agaacagaat gtgtcaagga gaagaatcat 420  
ttgtttacaa actgatgagc agatcccaga cttctctac cttcaggaat ggcagaaacc 480  
tctattcctg gggccagggc agagcttgag gtgttctggg gaaggtggtg ctcagagcct 540  
tccctgtgcc ctcacttg ttctggaaaa ctcaccactt gacttcagag ctttctctcc 600  
aaagactaag atgaagacgt ggcccaaggt agggggtagg gggagcctgg gtcttgagg 660  
gtttgttaa gtattaatat aataaatgtt acacatgtga aaaaaaaaaa 709

<210> 35  
<211> 848  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (1)..(624)

<400> 35  
ttg gag aag tgt ggt tgg tat tgg ggg cca atg aat tgg gaa gat gca 48  
Leu Glu Lys Cys Gly Trp Tyr Trp Gly Pro Met Asn Trp Glu Asp Ala  
1 5 10 15  
gag atg aag ctg aaa ggg aaa cca gat ggt tct ttc ctg gta cga gac 96  
Glu Met Lys Leu Lys Gly Lys Pro Asp Gly Ser Phe Leu Val Arg Asp  
20 25 30  
agt tct gat cct cgt tac atc ctg agc ctc agt ttc cga tca cag ggt 144  
Ser Ser Asp Pro Arg Tyr Ile Leu Ser Leu Ser Phe Arg Ser Gln Gly  
35 40 45  
atc acc cac cac act aga atg gag cac tac aga gga acc ttc agc ctg 192  
Ile Thr His His Thr Arg Met Glu His Tyr Arg Gly Thr Phe Ser Leu  
50 55 60

tgg tgt cat ccc aag ttt gag gac cgc tgt caa tct gtt gta gag ttt	240
Trp Cys His Pro Lys Phe Glu Asp Arg Cys Gln Ser Val Val Glu Phe	
65 70 75 80	
att aag aga gcc att atg cac tcc aag aat gga aag ttt ctc tat ttc	288
Ile Lys Arg Ala Ile Met His Ser Lys Asn Gly Lys Phe Leu Tyr Phe	
85 90 95	
tta aga tcc agg gtt cca gga ctg cca cca act cct gtc cag ctg ctc	336
Leu Arg Ser Arg Val Pro Gly Leu Pro Pro Thr Pro Val Gln Leu Leu	
100 105 110	
tat cca gtg tcc cga ttc agc aat gtc aaa tcc ctc cag cac ctt tgc	384
Tyr Pro Val Ser Arg Phe Ser Asn Val Lys Ser Leu Gln His Leu Cys	
115 120 125	
aga ttc cgg ata cga cag ctc gtc agg ata gat cac atc cca gat ctc	432
Arg Phe Arg Ile Arg Gln Leu Val Arg Ile Asp His Ile Pro Asp Leu	
130 135 140	
cca ctg cct aaa cct ctg atc tct tat atc cga aag ttc tac tac tat	480
Pro Leu Pro Lys Pro Leu Ile Ser Tyr Ile Arg Lys Phe Tyr Tyr Tyr	
145 150 155 160	
gat cct cag gaa gag gta tac ctg tct cta aag gaa gcg cag cgt cag	528
Asp Pro Gln Glu Glu Val Tyr Leu Ser Leu Lys Glu Ala Gln Arg Gln	
165 170 175	
ttt cca aac aga agc aag agg tgg aac cct cca cgt agc gag ggg ctc	576
Phe Pro Asn Arg Ser Lys Arg Trp Asn Pro Pro Arg Ser Glu Gly Leu	
180 185 190	
cct gct ggt cac cac caa ggg cat ttg gtt gcc aag ctc cag ctt tga	624
Pro Ala Gly His His Gln Gly His Leu Val Ala Lys Leu Gln Leu	
195 200 205	
agaaccaaataaagctacca tgaaaagaag aggaaaagtg agggAACAGG aaggTTGGGA	684
ttctctgtgc agagactttg gttccccacg caagccctgg ggcttggaaag aagcacatga	744
ccgtactctg cgtggggctc cacctcacac ccacccctgg gcatcttagg actggagggg	804
ctccttggaa aactggaaga agtctcaaca ctgtttcttt ttca	848

<210> 36  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Leu Glu Lys Cys Gly Trp Tyr Trp Gly Pro Met Asn Trp Glu Asp Ala  
 1 5 10 15  
 Glu Met Lys Leu Lys Gly Lys Pro Asp Gly Ser Phe Leu Val Arg Asp  
 20 25 30

Ser	Ser	Asp	Pro	Arg	Tyr	Ile	Leu	Ser	Leu	Ser	Phe	Arg	Ser	Gln	Gly
35						40						45			
Ile	Thr	His	His	Thr	Arg	Met	Glu	His	Tyr	Arg	Gly	Thr	Phe	Ser	Leu
50						55						60			
Trp	Cys	His	Pro	Lys	Phe	Glu	Asp	Arg	Cys	Gln	Ser	Val	Val	Glu	Phe
65					70					75				80	
Ile	Lys	Arg	Ala	Ile	Met	His	Ser	Lys	Asn	Gly	Lys	Phe	Leu	Tyr	Phe
	85							90						95	
Leu	Arg	Ser	Arg	Val	Pro	Gly	Leu	Pro	Pro	Thr	Pro	Val	Gln	Leu	Leu
	100						105						110		
Tyr	Pro	Val	Ser	Arg	Phe	Ser	Asn	Val	Lys	Ser	Leu	Gln	His	Leu	Cys
	115						120						125		
Arg	Phe	Arg	Ile	Arg	Gln	Leu	Val	Arg	Ile	Asp	His	Ile	Pro	Asp	Leu
	130					135					140				
Pro	Leu	Pro	Lys	Pro	Leu	Ile	Ser	Tyr	Ile	Arg	Lys	Phe	Tyr	Tyr	Tyr
145					150					155				160	
Asp	Pro	Gln	Glu	Glu	Val	Tyr	Leu	Ser	Leu	Lys	Glu	Ala	Gln	Arg	Gln
	165								170					175	
Phe	Pro	Asn	Arg	Ser	Lys	Arg	Trp	Asn	Pro	Pro	Arg	Ser	Glu	Gly	Leu
	180							185					190		
Pro	Ala	Gly	His	His	Gln	Gly	His	Leu	Val	Ala	Lys	Leu	Gln	Leu	
	195							200					205		

<210> 37  
 <211> 464  
 <212> DNA  
 <213> Mus musculus

<400> 37  
 gttccaagcc taacccatct ttgtcgttt gaaattcggg ccagtctaaa agcagagcac 60  
 cttcactctg acatttcat ccatcagttg ccacttccca gaagtctgca gaactatttg 120  
 ctctatgaag aggtttaag aatgaatgag attctagaac cagcagctaa tcaggatgga 180  
 gaaaccagca aggccacctg acacaggtcc tttaattctg tttagtcaca aaagacggct 240  
 tgtgtgactg tttggatttg gtgatcaa gtccatgtt acagttgctt ttcccagttt 300  
 gtgtcttcc caatattgtg aaccttatcc atcttgcctt actcagttt atttctagtg 360  
 cactttgtg tgtatttattt gtttacctga ccattttcta ctttattctg ctaataaact 420  
 gtaattctga aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 464

<210> 38  
<211> 747  
<212> DNA  
<213> Homo sapiens

<400> 38  
ggggatcgaa agcggggct tctggacgc agctctggag acgcggcctc ggaccagcca 60  
ttcgggtgtga gaagtggcag cacggcagac tggtaaaca aatggatttt acagaggctt 120  
acgcggacac gtgctctaca gttggacttg ctgccaggaa aggcaatgtt aaagtcttaa 180  
ggaaaactgct caaaaaggc cgaagtgtcg atgttgcgtaa taacaggggaa tggatgccaa 240  
ttcatgaagc agcttatac aactctgttag aatgtttgca aatgttaatt aatgcagatt 300  
catctgaaaa ctacattaag atgaagacct ttgaaggaaa ctgtgctttg catctcgctg 360  
caagtcaagg acattggaaa atcgtacaga ttcttttaga agctggggca gatcctaatt 420  
caactacttt agaagaaacg acaccattgt ttttagctgt tgaaaatggaa cagatagatg 480  
tgttaaggct gttgcttcaa cacggagcaa atgttaatgg atcccattct atgtgtggat 540  
ggaactcctt gcaccaggct tctttcagg aaaatgctga gatcataaaaa ttgcttctta 600  
gaaaaggagc aaacaaggaa tgccaggatg actttggaaat cacaccttta tttgtggctg 660  
ctcagtagtgg ccaagctaga aagcttgaa gcatacttat ttcatccggg tgcaaatgtc 720  
aattgtcaag cttggacaa agctacc 747

<210> 39  
<211> 1018  
<212> DNA  
<213> Homo sapiens

<400> 39  
cacaaatggg accatacaaaa aatctggac ttgttaataa ccacttacta accgggaccc 60  
gtgacactgg gctaaacaaa gtaagtccct gttactcag cagtgtttgg gggacatgaa 120  
ggattgccta gaaatattac tccggaatgg tctacagccc agacgcccag gcgtgccttg 180  
ttttggatt cagttctcct gtgtgcatttttgg cttccaaaa ggaggtggag ctgtagttct 240  
ttgaaattgt gaacattctt ttgaaatatg gagcccagat aaatgaactt catttggcat 300  
actgcctgaa gtacgagaag tttcgatat ttgcgtactt tttgaggaaa ggttgctcat 360  
tgggaccatg gaaccatata tatgaatttg taaatcatgc aattaaagca caagcaaat 420  
ataaggagtg gttgccacat cttctggtttgcctgatttga cccactgattt ctactgtgca 480  
attcttggat tgactcagtc agcattgaca cccttatctt cactttggag tttactaatt 540

ggaagacact tgcaccagct gttgaaagga tgctctctgc tcgtgcctca aacgcttgg 600  
ttctacagca acatattgcc cactgttcca tccctgaccc atcttgcgt tttggaaatt 660  
cggtccagtc taaaatcaga acgtctacgg tctgacagtt atattagtca gctgccactt 720  
cccagaagcc tacataatta tttgctctat gaagacgttc tgaggatgta tgaagttcca 780  
gaactggcag ctattcaaga tggataaattc agtggaaacta cttaacacag ctaattttt 840  
tctctgaaaa atcatcgaga caaaagagcc acagagtaca agttttatg attttatagt 900  
caaaagatga ttattgattt tcagataggt taggtttgg ggggccagta gttcagtgag 960  
aatgtttatg tttacaacta gccttcccag taaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaa 1018

<210> 40  
<211> 1897

<212> DNA

<213> Mus musculus

<400> 40  
cggggggctg ggacctgggg cgtaaccgtc tctaccacga cggcaagaac cagccaagta 60  
aaacataccc agccttctg gagccggacg agacattcat tgtccctgac tccttttcg 120  
tggccctgga catgratgat gggaccttaa gtttcatcgt ggtggacag tacatgggag 180  
tggcttccg gggactcaag ggtaaaaagc tgcattcgt agtggatgcc gtctggggcc 240  
actgtgagat cccatgcgc tacttgaacg gacttgatcc tgagccctg ccactcatgg 300  
acctgtgccg gcgttcggtg cgccatgcgc tggaaaaga ggcctgggt gccatcccc 360  
ctctgccgtt acctgcctcc ctcaaaagcct acctcctcta ccagtgtatcc acatcccagg 420  
accgcatac gacagccatc tggtgccaaatcactgagcc cggtgggtc cgccgacccc 480  
tgcgcctggg atggaagccc acctcagcca tggcagacg tgccccccta tcctaccggc 540  
tgcctctgct gggggAACCT atgccaacgg acttcccttccct tcccaacact ggctgaagca 600  
gcagcaccca ggcccttccc tgaaccagat gcagagaata aactatgaaa acctctctca 660  
ggcgccttct gctctcagggt ggagtggct gccccccact ctctgcagag agaggctaca 720  
cccacctggg gggccttggg aggttaagact agtaggaggt gcccggctg artccaaaag 780  
caggaatggc caggamcagg ccatacagat gaagctcagg atgtcacata ccatggacac 840  
tgagacagaa cccccagggtt gamttccctt gggccaacga gtgcagatc ttatgtcagc 900  
tgcgggtgct ctgtggcctg tatttattct taaaacagta gcaaaggcca tttatattt 960  
ccacttagaa agggaaacctt ggtgggtggy ttccctcgat gtgccttccc ccacctccct 1020

ggaatgtgtg tgccacacacct gtccttgtcc caggccagga ctgtggcaca tgagctggtg 1080  
 tgcacagata cacgtatgtc gtcgtgcattg acccctgact agttcctaag tagccctgca 1140  
 ccaagcacca gagcagaccc caagagaggc ccgtgcaagt cccatgtcc ccaggtccct 1200  
 gcttctgttg cttggact catacaccgg cacacgtgtt tcagcctctt gacttccatg 1260  
 agcttcgaat tttcccccg attcttctga tatttccat tggcatcctc caaagctctg 1320  
 ggcctggagg gcattaggac acatggaatg agtgggtct ccagccctg ggaaagccac 1380  
 tggcaaggca ggatttagaaa gaccaagagc agggtgggc gccatgaagc ctgtatgcct 1440  
 ctcaggctca agaccccgcc acacacccac tcaagcctca gaagtgggtgt gtagggcagc 1500  
 cccaggagag gaatgcctgt cctagcagca cgtacatgga gcacccaca tgtgctccag 1560  
 ccctctggct gttctcttg ctctagaatc aactccctac attggaaatg tagccatttg 1620  
 gtagaggact tgcctagcct gcaggaagct cacgttccat cccctgcacc aaggagaatc 1680  
 aaagctcagg aggctgaggc aggaggattg ctgtcagtgg tgtacagagg tcatggccat 1740  
 cctggctat attaacacctt gtccttaag aaaaagaaaa gaaatcaact tccattgaat 1800  
 ctgagttctg ctcatttctg cacaggtaca atagatgact tkatttgg 1860  
 aatatattta cmtatatata tatttgtaag aagcatt 1897

<210> 41  
 <211> 134  
 <212> PRT  
 <213> Mus musculus

<220>  
 <221> UNSURE  
 <222> (45)  
 <223> Xaa is unsure

<400> 41  
 Gly Gly Trp Asp Leu Gly Arg Asn Arg Leu Tyr His Asp Gly Lys Asn  
 1 5 10 15  
 Gln Pro Ser Lys Thr Tyr Pro Ala Phe Leu Glu Pro Asp Glu Thr Phe  
 20 25 30  
 Ile Val Pro Asp Ser Phe Phe Val Ala Leu Asp Met Xaa Asp Gly Thr  
 35 40 45  
 Leu Ser Phe Ile Val Asp Gly Gln Tyr Met Gly Val Ala Phe Arg Gly  
 50 55 60  
 Leu Lys Gly Lys Lys Leu Tyr Pro Val Val Ser Ala Val Trp Gly His  
 65 70 75 80

Cys Glu Ile Arg Met Arg Tyr Leu Asn Gly Leu Asp Pro Glu Pro Leu  
85 90 95

Pro Leu Met Asp Leu Cys Arg Arg Ser Val Arg Leu Ala Leu Gly Lys  
100 105 110

Glu Arg Leu Gly Ala Ile Pro Ala Leu Pro Leu Pro Ala Ser Leu Lys  
115 120 125

Ala Tyr Leu Leu Tyr Gln  
130

<210> 42

<211> 265

<212> DNA

<213> Homo sapiens

<400> 42

aagggtaaaa aactgtatcc tgttagtgagt gccgtctggg gccactgttag atccgaatgc 60  
gctacttgaa cggactcgat cccgagactg ccgcctcatgg atttgtgccg tcgctcggtg 120  
cgccctggccc tggggagggg ggcgcctgggg gagaaccaca cctgcccgtg ccggcttccc 180  
tcaaggccta ctcctctac cagtgacggtt cgcgcata cgcgcagcgc gacagccacc 240  
tggtgccaaac tcactgagcc gcctg 265

<210> 43

<211> 2438

<212> DNA

<213> Mus musculus

<400> 43

aagtggcggc ggtccctgga gagcaggcgg aggcagcggc aagtctgact ctgggctgac 60  
cgtggagccg gggcgggggc tgacagccag gcctccgcct ggcgggagcc gcacgaggag 120  
cgggagtggc cgggcctctc ttccgcgtt gagcgagcgc cgggtgatgg cgggtggtat 180  
ggcggcaggc gctcggacag ctccgcttga gctgagctcg gagagatccg tccagaaagt 240  
gccccagaaga aacttcctct tagaaaaagct gaaaaacaca rtatttataa cactggaaat 300  
tgtaaagaat ttgtttaaaa tggctgaaaa caatagtaaa aatgttagatg tacggcctaa 360  
aacaagtcgg agtcgaagtg ctgacaggaa ggatggttat gtgtggagtg gaaagaagtt 420  
gtcttggtcc aaaaagagtg agagttgttc tgaatctgaa gccataggtt ctgttgagaa 480  
tggtaaaatt cctctaagaa gccaagaaag gcagcttagc tggcgtcca ttgagttgga 540  
cttagatcat tcctgtggc atagattttt aggccgatcc cttaaacaga aactgcaaga 600

tgccgtgggg cagtgtttc caataaagaa ttgttagtggc cgacactctc cagggcttcc 660  
atctaaaaga aagattcata tcagtgaact catgttagat aagtgcctt tcccacctcg 720  
ctcagattta gccttaggt ggcatttat taaacgacac actgttctta tgagtccaa 780  
ctcagatgaa tgggtgagtg cagacctgtc tgagagaaa ctgagagatg ctcagctgaa 840  
acgaagaaac acagaagatg acataccctg tttctcacat accaatggcc agccttgt 900  
cataactgcc aacagtgcct cgtgtacagg tggtcacata actggttcta tgatgaactt 960  
ggtcacaaac aacagcatag aagacagtga catggattca gaggatgaaa ttataacgct 1020  
gtgcacaagc tccagaaaaa ggaataagcc caggtggaa atggaagagg agatcctgca 1080  
gttggaggca cctcctaagt tccacaccca gatcgactac gtccactgcc ttgttccaga 1140  
cctccttcag atcagtaaca atccgtgcta ctgggtgtc atggacaaat atgcagccga 1200  
agctctgctg gaaggaaagc cagagggcac cttttactt cgagattcag cgcaggaaga 1260  
ttatatttc tctgttagtt ttagacgcta cagtcgttct cttcatgcta gaattgagca 1320  
gtggaatcat aactttagct ttgatgccc tgatcctgt gtcttccatt ctccgtat 1380  
tactgggctc ctggaacact ataaggaccc cagtcgttct atgttcttg agccgctt 1440  
gtccactccc ttaatccgga cgttccctt tcccttgca catatttca gaacggttat 1500  
ttgtaattgt acgacttacg atggcatcga tgcccttccc attccttcgc ctatgaaatt 1560  
gtatctgaag gaataccatt ataaatcaa agttaggtt ctcaggattt atgtgccaga 1620  
gcagcagtga tgccggagagg tttagaatgtc gacctgcata catatttca ttatatttt 1680  
tattttctt atgcctctt gaattttgt acaaaggcag ttgaatcaa taaaactgtg 1740  
ccctaagtt taattccaga tcaatttatt tttttatga tacacttgtt atatatttt 1800  
aagcaggtgt ttggtttgt tttaccata taaattaca tatggccag gcatatttac 1860  
aatttcaagg cattgcatat acatttgaat attctgtatt tttaaataa tctttgtt 1920  
tttcctatgt gtgaaatatt ttgctaattt atgctatcag tattcttgta tgaccgaata 1980  
gttacctatt ctctttcat cttgaagatt ttcagtaaag agtgttgtaa tcaatccatt 2040  
ataatgtat tgactttgt aatttgc当地 taggagtgtt aaacaacaaa atgatttaaa 2100  
atgaaactta atgtatccc attttaataa ttaactaaac caagttgtt tgtagttat 2160  
tctagccaaat aagaaaagag aatgttagcat cctagaggtg tatttggc gcagttggc 2220  
aggaccgtca gttagtc当地 ataaacatcc cctcagcgtg gaggcgaatg gaacctgtgc 2280

tccttccta cggaaagctt tgcaaagcaa aatagcaggg ttacaagctt ggagtttta 2340  
aggcaactag agttttctct attaatttat agactgttgt tgacacctact tagctcttt 2400  
ttgggaaactc tagttcccaag gggaaaatac ctcgtgcc 2438

<210> 44  
<211> 542  
<212> PRT  
<213> Mus musculus

<220>  
<221> UNSURE  
<222> (94)  
<223> Xaa is unsure

<400> 44  
Ser Gly Gly Gly Pro Trp Arg Ala Gly Gly Gly Ser Gly Lys Ser Asp  
1 5 10 15  
Ser Gly Leu Thr Val Glu Pro Gly Arg Gly Leu Thr Ala Arg Pro Pro  
20 25 30  
Pro Gly Gly Ser Arg Thr Arg Ser Gly Ser Gly Arg Ala Ser Leu Pro  
35 40 45  
Arg Leu Ser Glu Arg Arg Val Met Ala Val Val Met Ala Ala Gly Ala  
50 55 60  
Arg Thr Ala Pro Leu Glu Leu Ser Ser Glu Arg Ser Val Gln Lys Val  
65 70 75 80  
Pro Arg Arg Asn Phe Leu Leu Glu Lys Leu Lys Asn Thr Xaa Phe Ile  
85 90 95  
Thr Leu Glu Ile Val Lys Asn Leu Phe Lys Met Ala Glu Asn Asn Ser  
100 105 110  
Lys Asn Val Asp Val Arg Pro Lys Thr Ser Arg Ser Ala Asp  
115 120 125  
Arg Lys Asp Gly Tyr Val Trp Ser Gly Lys Leu Ser Trp Ser Lys  
130 135 140  
Lys Ser Glu Ser Cys Ser Glu Ser Glu Ala Ile Gly Thr Val Glu Asn  
145 150 155 160  
Val Glu Ile Pro Leu Arg Ser Gln Glu Arg Gln Leu Ser Cys Ser Ser  
165 170 175  
Ile Glu Leu Asp Leu Asp His Ser Cys Gly His Arg Phe Leu Gly Arg  
180 185 190

Ser Leu Lys Gln Lys Leu Gln Asp Ala Val Gly Gln Cys Phe Pro Ile  
195 200 205

Lys Asn Cys Ser Gly Arg His Ser Pro Gly Leu Pro Ser Lys Arg Lys  
210 215 220

Ile His Ile Ser Glu Leu Met Leu Asp Lys Cys Pro Phe Pro Pro Arg  
225 230 235 240

Ser Asp Leu Ala Phe Arg Trp His Phe Ile Lys Arg His Thr Val Pro  
245 250 255

Met Ser Pro Asn Ser Asp Glu Trp Val Ser Ala Asp Leu Ser Glu Arg  
260 265 270

Lys Leu Arg Asp Ala Gln Leu Lys Arg Arg Asn Thr Glu Asp Asp Ile  
275 280 285

Pro Cys Phe Ser His Thr Asn Gly Gln Pro Cys Val Ile Thr Ala Asn  
290 295 300

Ser Ala Ser Cys Thr Gly Gly His Ile Thr Gly Ser Met Met Asn Leu  
305 310 315 320

Val Thr Asn Asn Ser Ile Glu Asp Ser Asp Met Asp Ser Glu Asp Glu  
325 330 335

Ile Ile Thr Leu Cys Thr Ser Ser Arg Lys Arg Asn Lys Pro Arg Trp  
340 345 350

Glu Met Glu Glu Glu Ile Leu Gln Leu Glu Ala Pro Pro Lys Phe His  
355 360 365

Thr Gln Ile Asp Tyr Val His Cys Leu Val Pro Asp Leu Leu Gln Ile  
370 375 380

Ser Asn Asn Pro Cys Tyr Trp Gly Val Met Asp Lys Tyr Ala Ala Glu  
385 390 395 400

Ala Leu Leu Glu Gly Lys Pro Glu Gly Thr Phe Leu Leu Arg Asp Ser  
405 410 415

Ala Gln Glu Asp Tyr Leu Phe Ser Val Ser Phe Arg Arg Tyr Ser Arg  
420 425 430

Ser Leu His Ala Arg Ile Glu Gln Trp Asn His Asn Phe Ser Phe Asp  
435 440 445

Ala His Asp Pro Cys Val Phe His Ser Pro Asp Ile Thr Gly Leu Leu  
450 455 460

Glu His Tyr Lys Asp Pro Ser Ala Cys Met Phe Phe Glu Pro Leu Leu  
465 470 475 480

Ser Thr Pro Leu Ile Arg Thr Phe Pro Phe Ser Leu Gln His Ile Cys  
485 490 495

Arg Thr Val Ile Cys Asn Cys Thr Thr Tyr Asp Gly Ile Asp Ala Leu  
500 505 510

Pro Ile Pro Ser Pro Met Lys Leu Tyr Leu Lys Glu Tyr His Tyr Lys  
515 520 525

Ser Lys Val Arg Leu Leu Arg Ile Asp Val Pro Glu Gln Gln  
530 535 540

<210> 45

<211> 5000

<212> DNA

<213> Mus musculus

<400> 45

ccctctggc aagccgcccc ccccccaccc atctaccaca cacacacaca cacacacaca 60  
cacacattca gaccttgggg caaaaacaaa gcaaaataac aacaacaaaa acactgcctg 120  
tggaaagtcc ttacttcagg aagggtggca gatgaggagc aagggaacat tttatcagga 180  
ctgccacaaa ggagtctttt ttttaatgg ttttcaaga cagggtttct ctgtatagcc 240  
ctggctgtcc tggagctcac tttgttagacc aggctggct cgaactcaga aattcgcctg 300  
cctctgcctc ctgagtgctg ggattaaagg cgtgcagcac catgtccaaac tggcatttc 360  
tcaattaagg ttcgttcctt tcagataact cttagttctg ggtcaagctg acacaaggct 420  
acacagcaca gtttgtatgc cacattcagt tcagaagaca cccaacccctcc ctggaactgg 480  
aacttatgca catttgtgag cttccacttg ggagtggaa cctgaactgg gtcctctgca 540  
agagcagccg tgctcttaac tgctgagcca tttcagcagc ctcacatcag aattaagtta 600  
gaaattagcc gggtatgaat cataccctta gaatccttagc atctgaaagc agagctaaga 660  
gaaacagggta ttcaagacca gctctggct acagagcccg tcctgtccta ggtatggctta 720  
caagagacta tttcaaagcc atccaaacaa caataactac aacaacaaca aggttaaaat 780  
taggctggc acagggtaca caccttaat gccaacactc aggaggcaga ggcaggctga 840  
tcagtgtgag tttgagttca acgtggctca catagggagt tctaggccag cagaggttac 900  
agtctctctc tctctctctc tctctctctc tctctcacac acacacacac acacacacac 960  
acacacacac acacacacacgg tggcattatg ggattttttt gggataaggt ttctctgtct 1020  
agccctggca tagattcact ctgtagacta ggctagcctt gaactcagag atccgcctgc 1080  
ctctgcctcc caagtgctgg gattataggt gttgcaccac cactgcccag ccactttggg 1140  
atttttgaac tggatcaag aggcttcga ggaggtcaaa cttcaacagc aacctctcca 1200

tgataatgta gctaattgatc aaacgacact caaaaacttaa cccttaaagc acacatccac 1260  
cagacagcgt gcccactcggt agttccatta ctcaggaggc tgaaggcagga ggatgaagga 1320  
ctaaggcttc agcaacctag ggagccgcag gggacagtag tctcaatccc tacattctcc 1380  
tgaacacagg agcaggagtt caggaagggt gtcaaggccg cttaactgatc tttagggcctc 1440  
aggaatgact agctcaggca gagagagcaa aggtctccag tggagaagtc tacacacaca 1500  
cacacacaca cacacacaca cacaatccaa ggcgatgacg tcatcaaagg 1560  
gttaattcta gtctggatg ggggggaggg tggggcacgc agctgtcagg tggctttgga 1620  
aaaataaact gctgaagagt ctgacgcccag ggagtcctgg gagggacaag aggttaccca 1680  
ctcaaagagt gtgctccaca aagcatgcgc gcttgcacac gtctggagtc gtcacttatt 1740  
tttgcctgg attctttgta gccgggtgggt tctcaaggcg gtaagtggtg tggccgcccgt 1800  
ggtctggag gtgacgatag ggttaatcggt ccacagagcc caggggcccgg ggcggggcgg 1860  
gcgtccgcag ccccgctgga gccggaaagca gtggctggc aggggcgtt ctgccttcc 1920  
ctatctgtac ttccacagag gtctctgcga gctaggggga cagtggatgg cggggtaggg 1980  
gcccggcggtt agagccagca aggggacggt tcacggtaag gtctggggaa gagagagctc 2040  
ctgagaaact tggggggcgc gacacagata gggtaaagc agagtatcg acctggatg 2100  
gttaggggac caagggaaaga ccaggctggt tggcatacac cggtaacgg atggagatcc 2160  
tagggaaaga ttagtgcgcct aacagtccct tctgtctcca caccactcca ggggacgatc 2220  
cgagactcaa cttcaaaag cgagacgccc cagcaaggct gttttgagaa gttcttcagc 2280  
ggctctccctc atggccaga cggccctggc aaggggcagc agcagcaccc ctacctcgca 2340  
ggctctgtac tcggacttct ctcctcccgta gggcttggag gagctctgt ctgctcccc 2400  
tcctgacctg gttgcccac ggcaccacgg ctggaaacccc aaggattgct ccgagaacat 2460  
cgatgtcaag gaagggggtc tgtgcttga gggccgcct gtggcccaga gcactgtatgg 2520  
agtccggggaa acacggggct attcgagagg tctgcacgcc tggagatca gctggccct 2580  
ggagcaaagg ggcacacacg ccgtgggtgg cgtggccacc gcccctcgccc cgctgcaggc 2640  
tgaccactat gcggcgctt tgggcagcaa cagcgagtcc tggggctggg atattggcg 2700  
gggaaaattt tatcatcaga gtaaggccct cgaggcccc cagtagccatg ctggacactca 2760  
gggtgagcag ctatgtgtgc cagagagact gctgggtggtt ctggacatgg aggaggggac 2820  
tcttgctac tctattgggg gcacgtaccc gggaccagcc ttccgtggac tgaaggggag 2880

gaccctctat ccctctgtaa gtgctgttg gggccagtgc caggtccgca tccgctacat 2940  
gggcgaaaga agaggtgaga tacggactag gtgtggggag atcactactc ttggcaatgg 3000  
tttgggctgg aaactcatgg ttggagcaca ggaagtaggc ttcttgcac tttggcctgt 3060  
cacttagatg gccttggatc tagcttcaact cccaatccct attggatgtg atgcacaaat 3120  
tcagagcctt tgggtctccc tcagctgagg tggcggtgga aatggaggaa gaaggaaggg 3180  
tgcctgagca ggatctcaag ttcaaggatg cctggagttg cttaacttacc ttgtcttcct 3240  
tctctctccg cagtggagga accacaatcc cttctgcacc tgagccgcct gtgtgtgcgc 3300  
catgctctgg gggacacccg gctgggtcaa atatccactc tgcctttgcc ccctgcccatt 3360  
aagcgctatc tgctctacaa atgacccagt agtacagggc cctaccgtgg 3420  
ggacaggtgg agaggcaccc gctggcctag acaactttaa aaagctggtg aagctggggg 3480  
gggggggctg gacccttca cctcccttc tcacaggagc aagacatata gaaatgatat 3540  
taaacaccat ggcagcctgg gacaaagagg ttttgaagt aaaaaatgag atgtattgtc 3600  
acaacctgtt tcattattgt ttttgtttt gtttacact cccccacccc aggctagagc 3660  
cccatcactg tcttaaggaa ttatgacaac ccacaaagct cagggccagg tgtttatttc 3720  
ccttacatgt agatggttc acaaacacaa tacagggct ttggcaccgt gggggagggg 3780  
actatcccag gcctcttagg gtctcatgta taccgaattc agacccgaaa gctctgaatt 3840  
tctgcatcag acatccagta gaacttggga gtgaagctag agccaaggcc atctaagtga 3900  
caggccaaag tgacacgaag cccacttcct gtgctccaac catgagttc cagcccaaac 3960  
caatggaaagg tgatttcaact tgtcagggcc caaaggaca gtcagttctt ctcctcccc 4020  
tcactaggag ccaccttgggt gacagttgat tctaccact gtaagtggta aagggattgg 4080  
cctggtccca accataatag ggcggtgaa acggctcagg agggtagcgtc gtggattagg 4140  
ccacaagatg gggcagatga tgtcatcaga agcatgtgac cggtgggagc agttactaaa 4200  
cttctggca acctagtcca tgctatgcag gcaggttagag ggtatggcag tgctcattgt 4260  
ttggcattga tcatgtccac aaattcaggc ttgagagatg cgccacccac aaggaagccg 4320  
tccacgtcag gctggcttgc cagcttttgc caggttgctc cagtcacaga acctgtacca 4380  
ggaacaagaa gacagttgg tcaggtctat gatcagaaca cttaagcccc acctctctgt 4440  
gcaaggcagc ctcaagtctgt cttagccat ttccgtcttgc gctagagccca aagccactca 4500  
cctccataaaa tgatccgggt gctctgagcc accccatcat tgacattggta tttcagccat 4560

ccccggagct tctcggtac ttccctgtgcc tagaaggagg aggcagagct actaagtaag 4620  
ctccttccta tctatcattc aaggagtaaa aaccactggt ttcacatag agttgagtt 4680  
ccagaaaagc cccgggacca gagagtggca aggctccaat cccaccaggc ttggaatgaa 4740  
cattttggc aaagtcaactc tccttggtga gtttggggc cctctgtctc taaaggggct 4800  
tggatgggct ccatagctgt gtgagtctgt taaagccgga caggctgagg agctctgggt 4860  
agttacctgc tgaggggttg ccgtcttgcc agtcccaatg gcccacacag gttcataggc 4920  
caggaccacc ttgctccagt cttcacatt atctgtgggg cagagaggag agtgagttagg 4980  
aaggagctga cccgccaagc 5000

<210> 46

<211> 264

<212> PRT

<213> Mus musculus

<400> 46

Met Gly Gln Thr Ala Leu Ala Arg Gly Ser Ser Ser Thr Pro Thr Ser  
1 5 10 15

Gln Ala Leu Tyr Ser Asp Phe Ser Pro Pro Glu Gly Leu Glu Glu Leu  
20 25 30

Leu Ser Ala Pro Pro Pro Asp Leu Val Ala Gln Arg His His Gly Trp  
35 40 45

Asn Pro Lys Asp Cys Ser Glu Asn Ile Asp Val Lys Glu Gly Gly Leu  
50 55 60

Cys Phe Glu Arg Arg Pro Val Ala Gln Ser Thr Asp Gly Val Arg Gly  
65 70 75 80

Lys Arg Gly Tyr Ser Arg Gly Leu His Ala Trp Glu Ile Ser Trp Pro  
85 90 95

Leu Glu Gln Arg Gly Thr His Ala Val Val Gly Val Ala Thr Ala Leu  
100 105 110

Ala Pro Leu Gln Ala Asp His Tyr Ala Ala Leu Leu Gly Ser Asn Ser  
115 120 125

Glu Ser Trp Gly Trp Asp Ile Gly Arg Gly Lys Leu Tyr His Gln Ser  
130 135 140

Lys Gly Leu Glu Ala Pro Gln Tyr Pro Ala Gly Pro Gln Gly Glu Gln  
145 150 155 160

Leu Val Val Pro Glu Arg Leu Leu Val Val Leu Asp Met Glu Glu Gly  
165 170 175

Thr Leu Gly Tyr Ser Ile Gly Gly Thr Tyr Leu Gly Pro Ala Phe Arg  
180 185 190

Gly Leu Lys Gly Arg Thr Leu Tyr Pro Ser Val Ser Ala Val Trp Gly  
195 200 205

Gln Cys Gln Val Arg Ile Arg Tyr Met Gly Glu Arg Arg Val Glu Glu  
210 215 220

Pro Gln Ser Leu Leu His Leu Ser Arg Leu Cys Val Arg His Ala Leu  
225 230 235 240

Gly Asp Thr Arg Leu Gly Gln Ile Ser Thr Leu Pro Leu Pro Pro Ala  
245 250 255

Met Lys Arg Tyr Leu Leu Tyr Lys  
260

<210> 47

<211> 5615

<212> DNA

<213> Homo sapiens

<400> 47

gtactttctt tataatctcca taattttatt tactattact acatgataca ttatttata 60  
aaagtctttg taaccttcctt aaggattcac tgcttaatct ccagtgccta gcacaaatca 120  
ttaaatgcga accagaaact cttccaaatg tgttacatct ataacctcat tggattctca 180  
ctaccaaccc catgcaatag atactaatgt gatctctgtc ttacagagga agaaacaggc 240  
acagggaggt tcagtaattt gcccaggc atacacacac tggcttcag gtattcatgc 300  
ccggggagtc tggcccaca gctggcatgt ttgccattat attatattgc ctccttata 360  
tgtcggcact cattaagcac attgacagct atgcttggtg agtgactact atgtacccag 420  
ctctgtgcta catgctttac ctggattatt tcaactgcac aacaaccctg tgaggtaact 480  
accatcatgt ctccttattt acataacaga aaactacaga aatctggggc tggcgttagt 540  
ggctcatgcc taaaaatccca gcactttggg agaccctgtc tctaaaaaaaaa atttttttt 600  
ggccggacgt ggtggctcac acctgtatc tcagcacttt gggaggctaa ggcaggcaga 660  
tcacaaggc aggagttcta gaccagcctg gccaacatgg caaaaccctg tgtctactaa 720  
aaataaaaaa aatagctagg cgtggggca ggtgcctgtatccagctca ctcaggaggc 780  
tgaggcagga gaatcccctg aacctgggag atggaggtt cagagagccg agatcgtgcc 840  
gctgcactcc agcctggca acaagagcaa gactctgtct cgaaaaaaaaat aaaaataaaaa 900  
ataaaaaatat tttttaaaaa attagctggg tggtagca catgcctgtatccagctaa 960

cttgggaggc tgaggttagga ggatcacttg agcccaggag gtcaggctg cagtggctg 1020  
tgatggcgcc actgcactct agccttggtg acagcaagac cctgtctcaa aaaaaaaaaa 1080  
aagagaaaatc gggcaacttc cccaagatcg cgcatgttaac tagtggcata gcttcactca 1140  
aactcgaagt cttaatcagg acactctacc aaatgagatc aacggcttag taatggattg 1200  
gcatccagta tgaagactgg accagcaggg agaactatga tgcgtacagc ctagagcctg 1260  
aagcagatt cacagcctca gaggtggcac aggctgactc acaacccggg gcagaaaggg 1320  
accagcccgaa acacagtgac ccagaatcac agggaaagtag aaatgggatt cggcacaatg 1380  
aagccctcc ttgacccat gtccttacc ctcagggcg caggagttag tcgctcaggc 1440  
ggctcaaagg tctgacggt ggagaacacc atccccaggg attcccgacg cggtgatgcc 1500  
atcaaagcgt taattctgag atggcctgc ccgggtgcgg actctgccgc agcaagagaa 1560  
gggttaactg ccccgccct tcgccgtggg ggcggggct cggggagggt cacagccgg 1620  
gactgagacc cgaggttaac cgcccggtt gggctccacg gggcgccggc atgctctccg 1680  
cggtctgcgc cggtatagag cggttaactgc ccaggagggg gcggggcccc acagggcgt 1740  
ggcctcggag ctgcacggcc gtggcgccg atgagagggt taagccccag agggccctgg 1800  
aggggccccggg ccgcgggacg ggctcgccccc aagggaggag ctggggcg aagcgccgg 1860  
cggtctgcgc cctgcgcgc tcggcttctt tccgccccgc tccttcagag gcccggcgcac 1920  
ctccaggcgt gggaaagtcaa ccgaggttcg gggcagcgg cgaggctcc gggcgagtaa 1980  
gggggatggt ccatgctgag gccaaatgg ggcgaactcg cgagagtctc tggcgacctg 2040  
gatcagatgg ggcgagggca gatgaaggc ccaggagctt tggggcagcg aggagggagg 2100  
agcgcccccgg tggcaaaact tgggtgaaag gatgggtac ctgggtgacg agccccggc 2160  
aggattctgc tcttcacgcc cctttctcc cagctccctt ccaggtcaat ccaaactgga 2220  
gctcaacttt cagaagagaa agacgccccca gcaagcctt ttcggggagt cctctagctc 2280  
ctcacctcca tgggccagac agctctggca gggggcagca gcagcacccc cacgcccacag 2340  
gccctgtacc ctgacctctc ctgtcccgag ggcttggaaag agctgctgtc tgcacccct 2400  
cctgacctgg gggcccagcg ggcacgggt tggaaaccca aagactgttc agagaacatc 2460  
gaggtcaagg aaggagggtt gtactttgag cggcgccccg tggcccagag cactgatggg 2520  
gccccgggta agaggggcta ttcaaggggc ctgcacgcct gggagatcag ctggccccta 2580  
gagcagaggg gcacgcacgc cgtgggtggc gtggccacgg ccctcgcccc gctgcagact 2640

gaccactacg cggcgctgct gggcagcaac agcgagtcgt ggggctggga catcgccgg 2700  
gggaagctgt accatcagag caaggggccc ggagcccccc agtatccagc gggaaactcag 2760  
ggtgagcagc tggaggtgcc agagagactg ctgggtggtc tggacatgga ggagggaaact 2820  
ctgggctacg ctattgggg cacctacctg gggccagcat tccgcggact gaagggcagg 2880  
accctctatc cggcagtaag cgctgtctgg ggccagtgcc aggtccgcattc cggctacctg 2940  
ggcgaaagga gaggtgagggc ctggggcaga cgtggggaga actttctgtc cctgggtggca 3000  
gtggtttggg atggaaactc ttctgacaag agcagagggg atggaccttc atccagcctg 3060  
cctcaacctc tggtcagtgc tggaaaggc taggggtctt cacagctgtt atttaattta 3120  
acccaacacgc aatagaggtg aaacaggctt gagaaagcaa ctttctcaag ttctcttggc 3180  
cagtaaatgg tgaaccttca gaatggaggg aggaactgca gggatgagag aattcaggag 3240  
atatcaaccc ctgagcaaga ggtgcaaaagc gttaggtact gggtttgcgt tacaggtcca 3300  
aaagaaggat gggcagagcc aggtacccag gctgtataacc ggattccctg ggctctaacc 3360  
tgtctctgtg ccacataccct acttccttcc tcagccacac ctctggatgg agacactggg 3420  
gccctggca ccagggagga gagcagtggc ggaggcaggg ctttaggggtg gggcagcagg 3480  
ggaggagcct ccccaggaac tgactggtc cagggcttgg agctgcttc tgcaagtgtg 3540  
tgggctgttag agtggagggc catccctcct cacctcagcc ccagctccca agcctctgga 3600  
gtcaaagcct gggccagctc caccactgac agagccaccc tggcctgttgc ttttagagggc 3660  
cttagccagc tcttcacccca cagctctgac tagggatgtg tgaaatctta tctggagggc 3720  
agaacttccg ggtatctcaa attcccttt cagccaggtg ggcacactcg aagcaggaaa 3780  
gcagaaaggc atctgagtag gacccctgtg tttgaggaca tctggctgttgc ggctgcaccc 3840  
atacttacat tccccctcctt ctctctccca gcgagccac actcccttct gcacctgagc 3900  
cgccctgtgtg tgccgcacaa cctggggat acccggtcg gccaggtgtc tgccctgccc 3960  
ttgccccctg ccatgaagcg ctacctgctc taccagttag ccctgtgata ccacagactg 4020  
tgctgaggc ttgccaccac ccctccctt ggggaggtgg ggaggcaactg ctggcctaga 4080  
ccagctgctg aaagctggc aggctgagcc cctacccaa cccaaagctct gcggaaatca 4140  
acagccccag agccacttgg agggaggaag aaagggagcc ggcgttcaag gctatgacag 4200  
tctgctacgc aaaacatttt ttcaagtaaa aatagtaaga gatgttgtt tagaaacctg 4260  
ttcttgggg ttttttttc ttgcacaaat gatcatttat atagctgcct caaaaaggaa 4320

gattatctgg gcaagtccag tgaaggcaga caaaccacaa gacctagtgc caggttatt 4380  
 ccctcacatg ggtggttcac atacacagca cagaggcacg ggcaccatgg gagagggcag 4440  
 cactcctgcc ttctgagggg atcttggcct cacggtgtaa gaagggagag gatggttct 4500  
 cttctgccct cactagggcc taggaaaccc aggagcaa at cccaccacgc cttccatctc 4560  
 tcagccaagg agaagccacc ttggtgacgt ttagttccaa ccattatagt aagtggagaa 4620  
 gggattggcc tggtccaaac cattacaggg tgaagatata aacagtaaag gaagatacag 4680  
 tttggatgag gccacaggaa ggagcagatg acaccatcag aagcatatgc agggaaagg 4740  
 cagttactgg gcttctggc tgcttagtcc ctggcttggc aggaaggta gggaaagatgg 4800  
 atggggctca ttgtttggca ttgatgatgt ccacgaattc gggcttgagg gaagcaccac 4860  
 ccacaaggaa gccatccaca tcaggctggc tggccagctc cttgcagggtt gccccagtca 4920  
 cagagcctgg gaagggagca gaacaaggc ttggtaaga atgggatgag tctgccccat 4980  
 ccccacctcc atgtccgagg gctcagtcta gtcctcagcc cactccaccc cagccggaa 5040  
 ccaaagccac tcacccat aaatgatacg ggtgctctga gccaccgc cagagacgtt 5100  
 ggacttcagc catcctcggc gcttctcgtg tacttcctgg gcctagaaca agaagctggc 5160  
 ctaagtaaga cctttctgc ctctctaaga gaaaaatca ctggcaccag tggacactta 5220  
 gtgtggttc tgactgagtc agagtaccag ggctctgatc caagccaggc cttggactgg 5280  
 atgcccctgg acaagtcact gtctctgggt tcaaggtctc tgtgtcttg aaataagg 5340  
 ttgccccatg tggctgtgt ctgtccaaac ctattgagggc aggctggat gagggcagg 5400  
 ctcctggcc cggttacctg ttgggtgtt gcagtctgc cagtagccat ggccccacaca 5460  
 ggctcatagg ccaggacgac cttgctccag tccttcacgt tatctgcagg gcagagatac 5520  
 agatggaggg aagggtgaac aagaaagagc tctccagcca gttctccgg agtacgaaga 5580  
 acggtgccct actgccccct agtggacatt ggggg 5615

<210> 48  
 <211> 263  
 <212> PRT  
 <213> Homo sapiens

<400> 48  
 Met Gly Gln Thr Ala Leu Ala Gly Gly Ser Ser Ser Thr Pro Thr Pro  
 1 5 10 15  
 Gln Ala Leu Tyr Pro Asp Leu Ser Cys Pro Glu Gly Leu Glu Glu Leu  
 20 25 30

Leu Ser Ala Pro Pro Asp Leu Gly Ala Gln Arg Arg His Gly Trp  
 35 40 45  
 Asn Pro Lys Asp Cys Ser Glu Asn Ile Glu Val Lys Glu Gly Gly Leu  
 50 55 60  
 Tyr Phe Glu Arg Arg Pro Val Ala Gln Ser Thr Asp Gly Ala Arg Gly  
 65 70 75 80  
 Lys Arg Gly Tyr Ser Arg Gly Leu His Ala Trp Glu Ile Ser Trp Pro  
 85 90 95  
 Leu Glu Gln Arg Gly Thr His Ala Val Val Gly Val Ala Thr Ala Leu  
 100 105 110  
 Ala Pro Leu Gln Thr Asp His Tyr Ala Ala Leu Leu Gly Ser Asn Ser  
 115 120 125  
 Glu Ser Trp Gly Trp Asp Ile Gly Arg Gly Lys Leu Tyr His Gln Ser  
 130 135 140  
 Lys Gly Pro Gly Ala Pro Gln Tyr Pro Ala Gly Thr Gln Gly Glu Gln  
 145 150 155 160  
 Leu Glu Val Pro Glu Arg Leu Leu Val Val Leu Asp Met Glu Glu Gly  
 165 170 175  
 Thr Leu Gly Tyr Ala Ile Gly Gly Thr Tyr Leu Gly Pro Ala Phe Arg  
 180 185 190  
 Gly Leu Lys Gly Arg Thr Leu Tyr Pro Ala Val Ser Ala Val Trp Gly  
 195 200 205  
 Gln Cys Gln Val Arg Ile Arg Tyr Leu Gly Glu Arg Arg Ala Glu Pro  
 210 215 220  
 His Ser Leu Leu His Leu Ser Arg Leu Cys Val Arg His Asn Leu Gly  
 225 230 235 240  
 Asp Thr Arg Leu Gly Gln Val Ser Ala Leu Pro Leu Pro Pro Ala Met  
 245 250 255  
 Lys Arg Tyr Leu Leu Tyr Gln  
 260

<210> 49  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Primer

<400> 49  
 agctagatct ggaccctaca atggcagc

28

<210> 50  
<211> 36  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Primer  
  
<400> 50  
agctagatct gccatcctac tcgaggggcc agctgg

36

<210> 51  
<211> 128  
<212> PRT  
<213> Mus musculus  
  
<220>  
<221> UNSURE  
<222> (1)  
<223> Xaa is Leu, Ile, Val, Met, Ala or Pro  
  
<220>  
<221> UNSURE  
<222> (2)  
<223> Xaa is any amino acid residue

<220>  
<221> UNSURE  
<222> (3)  
<223> Xaa is Pro, Thr or Ser  
  
<220>  
<221> UNSURE  
<222> (4)  
<223> Xaa is Leu, Ile, Val, Met, Ala or Pro

<220>  
<221> UNSURE  
<222> (5)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (6)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (7)  
<223> Xaa is Leu, Ile, Val, Met, Ala, Phe, Tyr or Trp

<220>  
<221> UNSURE

<222> (8)  
<223> Xaa is Cys, Thr or Ser

<220>  
<221> UNSURE  
<222> (9)  
<223> Xaa is Arg, Lys or His

<220>  
<221> UNSURE  
<222> (10)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (11)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (12)  
<223> Xaa is Leu, Ile, Val, Met, Ala or Pro

<220>  
<221> UNSURE  
<222> (13)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (14)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (15)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (16)  
<223> Xaa is Leu, Ile, Val, Met, Ala, Pro, Gly, Cys, Thr or Ser

<220>  
<221> UNSURE  
<222> (17) .. (66)  
<223> Xaa can be any amino acid or no amino acid. Position 17-66 can be 1-50 amino acids.

<220>  
<221> UNSURE  
<222> (67)  
<223> Xaa is Leu, Ile, Val, Met, Ala or Pro

<220>

<221> UNSURE  
<222> (68)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (69)  
<223> Xaa is any amino acid

<220>  
<221> UNSURE  
<222> (70)  
<223> Xaa is Leu, Ile, Val, Met, Ala or Pro

<220>  
<221> UNSURE  
<222> (72)  
<223> Xaa is Leu, Ile, Val, Met, Ala, Pro or Gly

<220>  
<221> UNSURE  
<222> (73)  
<223> Xaa is Pro or Asn

<220>  
<221> UNSURE  
<222> (74)..(123)  
<223> Xaa can be any amino acid or no amino acid. Position 74-123  
can be 0-50 amino acids.

<220>  
<221> UNSURE  
<222> (124)  
<223> Xaa is Leu, Ile, Val, Met, Ala or Pro

<220>  
<221> UNSURE  
<222> (125)..(128)  
<223> Xaa is any amino acid

<400> 51  
Xaa  
1 5 10 15

Xaa  
20 25 30

Xaa  
35 40 45

Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa  
85 90 95

Xaa  
100 105 110

Xaa  
115 120 125

<210> 52  
<211> 34  
<212> PRT  
<213> *Mus musculus* or *Rattus norvegicus*

<400> 52  
Val Arg Pro Leu Gln Glu Leu Cys Arg Gln Arg Ile Val Ala Ala Val  
1 5 10 15

Gly Arg Glu Asn Leu Ala Arg Ile Pro Leu Asn Pro Val Leu Arg Asp  
20 25 30

Tyr Leu

<210> 53  
<211> 32  
<212> PRT  
<213> *Mus musculus*

<400> 53  
Ala Pro Thr Leu Gln His Phe Cys Arg Leu Ala Ile Asn Lys Cys Thr  
1 5 10 15

Gly Thr Ile Trp Gly Leu Pro Leu Pro Thr Arg Leu Lys Asp Tyr Leu  
20 25 30

<210> 54  
<211> 33  
<212> PRT  
<213> *Mus musculus*

<400> 54  
Val Ala Thr Leu Gln His Leu Cys Arg Lys Thr Val Asn Gly His Leu  
1 5 10 15

Asp Ser Tyr Glu Lys Val Thr Gln Leu Pro Gly Pro Ile Arg Glu Phe  
20 25 30

Leu

<210> 55

<211> 34  
<212> PRT  
<213> Homo sapiens

<400> 55  
Val Arg Pro Leu Gln Glu Leu Cys Arg Gln Arg Ile Val Ala Thr Val  
1 5 10 15  
Gly Arg Glu Asn Leu Ala Arg Ile Pro Leu Asn Pro Val Leu Arg Asp  
20 25 30

Tyr Leu

<210> 56  
<211> 34  
<212> PRT  
<213> Mus musculus

<400> 56  
Val Pro Ser Leu Gln His Ile Cys Arg Met Ser Ile Arg Arg Val Met  
1 5 10 15  
Ser Thr Gln Glu Val Gln Lys Leu Pro Val Pro Ser Lys Ile Leu Ala  
20 25 30

Phe Leu

<210> 57  
<211> 34  
<212> PRT  
<213> Mus musculus

<400> 57  
Pro Phe Ser Leu Gln Tyr Ile Cys Arg Ala Val Ile Cys Arg Cys Thr  
1 5 10 15  
Thr Tyr Asp Gly Ile Asp Gly Leu Pro Leu Pro Ser Met Leu Gln Asp  
20 25 30

Phe Leu

<210> 58  
<211> 37  
<212> PRT  
<213> Mus musculus

<400> 58  
Pro Arg Thr Leu Leu Ser Leu Cys Arg Val Ala Val Arg Arg Ala Leu  
1 5 10 15

Gly Lys Tyr Arg Leu His Leu Val Pro Ser Leu Pro Leu Pro Asp Pro  
20 25 30

Ile Lys Lys Phe Leu  
35

<210> 59  
<211> 37  
<212> PRT  
<213> Mus musculus

<400> 59  
Pro Arg Ser Leu Gln His Leu Cys Arg Cys Ala Leu Arg Ser His Leu  
1 5 10 15

Glu Gly Cys Leu Pro His Ala Leu Pro Arg Leu Pro Leu Pro Pro Arg  
20 25 30

Met Leu Arg Phe Leu  
35

<210> 60  
<211> 34  
<212> PRT  
<213> Homo sapiens

<400> 60  
Val Arg Ser Leu Gln Tyr Leu Cys Arg Phe Val Ile Cys Gln Tyr Thr  
1 5 10 15

Arg Ile Asp Leu Ile Gln Lys Leu Pro Leu Pro Asn Lys Met Lys Asp  
20 25 30

Tyr Leu

<210> 61  
<211> 37  
<212> PRT  
<213> Mus musculus

<400> 61  
Pro Arg Pro Leu Ala His Leu Cys Arg Leu Arg Val Arg Lys Ala Ile  
1 5 10 15

Gly Lys Tyr Arg Ile Lys Leu Leu Asp Thr Leu Pro Leu Pro Gly Arg  
20 25 30

Leu Ile Arg Tyr Leu  
35

<210> 62  
<211> 34  
<212> PRT  
<213> Homo sapiens

<400> 62  
Val Lys Ser Leu Gln His Leu Cys Arg Phe Arg Ile Arg Gln Tyr Thr  
1 5 10 15  
Arg Ile Asp His Ile Pro Asp Leu Pro Leu Pro Lys Pro Leu Ile Ser  
20 25 30  
Tyr Ile

<210> 63  
<211> 40  
<212> PRT  
<213> Mus musculus

<400> 63  
Val Pro Ser Leu Thr His Leu Cys Arg Leu Glu Ile Arg Ala Ser Leu  
1 5 10 15  
Lys Ala Glu His Leu His Ser Asp Ile Phe Ile His Gln Leu Pro Leu  
20 25 30  
Pro Arg Ser Leu Gln Asn Tyr Leu  
35 40

<210> 64  
<211> 37  
<212> PRT  
<213> Mus musculus

<400> 64  
Pro Leu Pro Leu Met Asp Leu Cys Arg Arg Ser Val Arg Leu Ala Leu  
1 5 10 15  
Gly Lys Glu Arg Leu Gly Ala Ile Pro Ala Leu Pro Leu Pro Ala Ser  
20 25 30  
Leu Lys Ala Tyr Leu  
35

<210> 65  
<211> 34  
<212> PRT  
<213> Mus musculus

<400> 65  
Pro Phe Ser Leu Gln His Ile Cys Arg Thr Val Ile Cys Asn Cys Thr  
1 5 10 15

Thr Tyr Asp Gly Ile Asp Ala Leu Pro Ile Pro Ser Pro Met Lys Leu  
20 25 30

Tyr Leu

<210> 66  
<211> 37  
<212> PRT  
<213> Mus musculus

<400> 66  
Pro Gln Ser Leu Leu His Leu Ser Arg Leu Cys Val Arg His Ala Leu  
1 5 10 15

Gly Asp Thr Arg Leu Gly Gln Ile Ser Thr Leu Pro Leu Pro Pro Ala  
20 25 30

Met Lys Arg Tyr Leu  
35

<210> 67  
<211> 37  
<212> PRT  
<213> Homo sapiens

<400> 67  
Pro His Ser Leu Leu His Leu Ser Arg Leu Cys Val Arg His Asn Leu  
1 5 10 15

Gly Asp Thr Arg Leu Gly Gln Val Ser Ala Leu Pro Leu Pro Pro Ala  
20 25 30

Met Lys Arg Tyr Leu  
35

<210> 68  
<211> 34  
<212> PRT  
<213> Mus musculus

<400> 68  
Leu Ser Ser Leu Lys His Leu Cys Arg Lys Ala Leu Arg Ser Phe Leu  
1 5 10 15

Thr Thr Tyr Gln Val Leu Ala Leu Pro Ile Pro Lys Lys Met Lys Glu  
20 25 30

Phe Leu